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Some Economic Aspects of the Taxation of Companies[1]

The main object of this paper is to indicate and discuss some of the effects of taxes that are levied upon the profits of companies. Throughout the paper main emphasis will be placed upon the United Kingdom and, in particular, upon the United Kingdom's experience of taxes of this type since the end of the war.

I.

It is only comparatively recently that the practice has developed of discussing the taxation of company profits separately from the taxation of other forms of income. In part this is because companies are now by far the most important form of enterprise; in part because they have been treated separately in the National Income Accounts; but mainly because they have been singled out for special tax treatment since 1947. With the short-lived exception of the Corporation Profits Tax of 1920-24 there was no special taxation of companies till the imposition of the Profits Tax in the 1947 Finance Act.[2] The Excess Profits Duty of the first world war, Mr. Chamberlain's National Defence Contribution of 1937 and the Excess Profits Tax of the second world war singled out profits for special tax treatment as compared with other forms of income but the profits of companies and other businesses were treated in a more or less similar manner. The Profits Tax, however, and Mr. Butler's Excess Profits Levy are confined solely to companies.

[1]The substance of this paper was presented at a meeting of Northern University Economists held at Sheffield in March, 1953.

[2]Companies were, of course, taxed at the standard rate of Income Tax. Here, the Income Tax will be examined in its role as a proportional tax levied upon undistributed profits. Though in practice many Boards of Directors fail to distinguish between the Income Tax that they pay upon undistributed profits and that which they pay as agents for the Board of Inland Revenue on the profits that they distribute, in principle, a distinction should be made and, for the purposes of this paper the latter payments are regarded as personal rather than company tax payments—thus following the practice of the National Income statisticians. In all tables then, the taxation paid by companies as agents of the Board of Inland Revenue, upon distributed income is omitted.

In 1920 a group of members of the Royal Commission on the Income Tax were able to write that "the Income Tax is not a corporation tax. It is a tax upon the incomes or profits of individuals and though for convenience it is assessed in the first instance upon companies in which they hold interests the amount of it is always adjusted to the income not of the corporation but of the individual shareholders. It is true that when a company receives profits which it does not distribute the profits are taxed at the standard rate. But it is universally recognised that the reason for this is not that the company as such is liable to income tax but that it is impracticable to tax the separate profits at the rates to which the separate shareholders to whom they ultimately belong are respectively liable."[1] It would have been possible for a similar statement to have been made in 1937 and perhaps even in 1946 but it is not possible to-day. The Income Tax levied upon companies is now closely intertwined with the other purely corporate taxes and has itself clearly become a part of a single company tax function. Companies are now treated as having a taxable capacity in their own right.

As compared with before the war company taxation has become a much more important source of revenue. Table I shows how the proceeds of this form of taxation have increased not only with respect to the National Income but also in relation to the proceeds of other taxes. These changes have been brought about by some very considerable increases in the tax rates applicable to companies. In 1938 the standard rate of income tax was 5/6 in the pound and in addition there was the National Defence Contribution, a levy of 5% on total company profits.[2] During the war the standard rate of Income Tax reached 10/- in the pound and any increase in net profits over the pre-war level was more or less impossible because of the existence of a 100% Excess Profits Tax. Immediately after the end of the war there was some reduction in this tax burden the standard rate being reduced to 9/- in 1946 and E.P.T. reduced to 60% from the beginning and abolished from the end

[1] *Report of the Royal Commission on the Income Tax*, Cmd. 615, p. 164.
[2] The profits of unincorporated businesses were taxed at 4%.

TABLE I

	Taxation paid by Companies[1]		
	As a percentage of G.N.P.	As a percentage of Total Taxation	As a percentage of Total Direct Taxation
1938	1·7	10·3	23·3
1948	5.4	15.8	34.8
1949	6·9	20·5	42·5
1950	6·5	20·2	41·8
1951	5·5	17·1	35·9
1952	6·5	21·2	41·5

Sources : Annual Abstract of Statistics, No. 89, 1952. National Income and Expenditure, 1946–51. Preliminary Estimates of National Income and Expenditure, 1948–52, Cmd. 8803. Economic Survey for 1953, Cmd. 8800.

of the same year. From 1946, however, the burden on companies increased continually up to the budget of April, 1953. In 1947 the National Defence Contribution was replaced by the Profits Tax at the initial rates of 10% on undistributed and 25% on distributed profits.[2] In 1949 the tax on distributed profits was raised to 30% and in 1951 to 50% when the standard rate of income tax was increased to 9/6 in the pound. In 1952 the rates of Profits Tax were reduced to 2½% and 22½% but at the same time the tax ceased to be deductable for income tax purposes and an Excess Profits Levy was introduced. These changes increased the overall tax burden of many companies. In 1953 the E.P.L. was abolished and the standard rate of income tax was reduced to 9/- in the pound. Table II

[1]See footnote 2, p. 1.

[2]These rates were not so heavy as they appear for at the time the amount of Profits Tax paid could be deducted before arriving at the profit figure for Income Tax purposes. The new rates were, therefore, equivalent only to an extra 1/1 in the pound on undistributed profits and 2/9 in the pound on distributed profits in addition to Income Tax at the standard rate. The 1952 Finance Act made the Profits Tax and E.P.L. (unlike E.P.T.) non-deductable for Income Tax purposes. The pre-1952 and post-1952 rates of Profit Tax are not therefore comparable though one can make a rough comparison by dividing by two the pre-1952 rates.

summarises these changes and indicates the overall rate of tax applicable to the chargeable profits of companies assuming that no distribution takes place to shareholders.[1]

TABLE II

	Taxation as a percentage of profits assuming nil distribution
1938 Finance Act. A. ...	31.1
1947 Finance Act. B. ...	50·5
1951 Finance Act. C. ...	52·7
1952 Finance Act. D. ...	50·0–65·0
1953 Finance Act. E. ...	47·5

A. Income Tax 5/6. N.D.C. 5% (deductable).
B. Income Tax 9/–. Profits Tax 10% (deductable).
C. Income Tax 9/6. Profits Tax 10% (deductable).
D. Income Tax 9/6. Excess Profits Levy 30% of profits in excess of standard profits up to a limit of 17½% of total profits. Profits Tax 2½%. E.P.L. and Profits Tax non-deductable. A company's rate within the range 50%–65% depended upon the relation of chargeable profits to standard profits.
E. Income Tax 9/–. Profits Tax 2½% (non-deductable).

It was the very considerable increase in the tax rates applicable to companies and the fact that new forms of company taxes had been introduced since the end of the war that suggested the present study. I propose as a point of departure

[1]The corresponding rates of tax assuming maximum distribution to shareholders and counting the Income Tax deducted from dividends as a tax liability of the company are as follows :—

Year	Taxation as percentage of profits	Undistributed Profits Tax	
1938	31·1	5%	(NDC) Deductable.
1947	57·0	25%	Deductable.
1949	58·7	30%	Deductable.
1951	66·2	50%	Deductable.
1952	63·8–74·6	22½%	Non-deductable.
1953	61·5	22½%	Non-deductable.

Distributed Profits Tax is calculated upon the gross sum distributed. It is not possible to incur this tax upon the total profits of a company because out of the total must be found not only the gross dividend but the Profits Tax upon it.

to examine the arguments and conclusions of the Colwyn Committee [1] and in particular to consider the extent to which they can be accepted to-day. Then having considered some statistical material relating to the effects of company taxes I shall proceed to a more general discussion of their effects and desirability.

II.

The Colwyn Committee divided their treatment of the effects of taxes upon company profits into two parts. In one they discussed what they called the 'incidence' of such a tax and in the other what they called the 'effects.' [2] Under the heading 'incidence' the Committee discussed the more immediate effects of the tax and, in particular, the problem as to where the burden of the tax lay in the short period, and under the heading 'effects' they discussed the effects of the tax other than those covered under the heading 'incidence.' [3] Under both these heads the Committee's conclusions were that the Income Tax levied upon company profits was not having any very significant effect upon the economy. In paragraph 310 they stated (with reference to 'incidence') that "we think that the economic argument is conclusive in establishing the general rule that the tax is not passed on in higher prices" and, in paragraph 438 (with reference to 'effects') they stated that "over the whole field the influence of the income tax has been of little relative importance." In arriving at these conclusions [4] the Committee were greatly influenced by the evidence

[1] *Report of the Committee on National Debt and Taxation*, Cmd. 2800, 1927.

[2] I shall write 'incidence' and 'effects' when I am using the words in the sense in which the Colwyn Committee used them.

[3] The distinction between 'incidence' and 'effects' is discussed at length in paras. 288–292 of the *Report*.

[4] In their discussion of both 'incidence' and 'effects' the Committee concentrated upon the problem of whether or not a tax upon profits would lead to higher prices. There is some justification for this approach when the Committee is considering 'incidence' but not when they are considering 'effects.' Under the heading 'effects' they discuss the effects of company taxes upon the level of company savings, investment, enterprise, the growth of firms, etc., and their approach leads them to discuss these important problems in the context of the taxes' possible price effects. This leads to awkward and crabbed arguments and though much of the discussion is sensible the method of exposition often makes it difficult to discover their views on important matters.

of the many eminent economists [1] who appeared before them and who had a more or less unanimous view upon these issues.[2]

On 'incidence' it was the *a priori* deductions of the economists and the statistical paper submitted by the Inland Revenue's Director of Statistics and Intelligence [3] that mainly influenced the Committee. Professor Pigou for instance, argued that "the income tax does not directly enter into prices. It is assessed on the profits resulting from trade and industry and if—as may be presumed—people are already charging the prices that yield them the best profit the removal by the state of a proportion of it will not tempt them to fix prices differently." [4] This is typical of the arguments put forward by the economist witnesses which, on the whole, were accepted by the committee. In essence the argument is that price and output are determined by the intersection of marginal cost and marginal revenue curves and as there is no reason to suppose

[1]Amongst them D. H. Macgregor, A. C. Pigou and J. M. Keynes.

[2]It is often thought that there was a marked difference of opinion between economist and other witnesses. A cursory examination of the Report and Evidence might suggest this but, in fact, the conflict is much more apparent than real. The misconception arises out of the distinction which the Committee, following the economists, drew between 'incidence' and 'effects' and because emphasis in both the Report and in discussion following its publication tended to be placed upon 'incidence.' In their thinking the non economist witnesses did not distinguish between 'incidence' and 'effects' and this tends to exaggerate the extent to which the two groups really disagreed. Many of the points and arguments of the business man and other non economist witnesses though rejected by the economists and the Committee as irrelevant to the problem of 'incidence' were nevertheless accepted as pertinent to the discussion of 'effects.' This considerable measure of agreement tends to be overlooked. It is interesting to note that J. M. Keynes in his review of the Report (*Economic Journal*, June, 1927) does not discuss at all the parts that deal with 'effects' though he does find space to write that "The Committee endorses practically without reserve the unanimous opinion of the economists who gave evidence that Income Taxes are not shifted and do not lead to higher prices against the almost equally unanimous opinion of the business men to the contrary." This is just not true. In their discussion of 'effects' the economists were prepared to agree that a tax on profits might increase prices and their arguments in this context were very similar to those of the business men.

[3]Memorandum by H. Coates on *The Incidence of Income Tax*, which is printed as Appendix XI of the *Report*.

[4]Para. 30 of his *Evidence in chief*. See also the *Evidence in chief* of W. T. Layton and Professor Seligman's paper, *Income Tax and the price level*, reprinted as Appendix XII to the *Report*.

that a tax levied upon net profits at any rate less than 100% will affect either marginal cost or marginal revenue there will be no effect upon prices.

The statistics that most influenced the Committee were, firstly, those that showed that in each industry group there was a material portion of the total turnover being done at a loss or at no profit[1] and, secondly, those that indicated that the average rate of gross profit was not much greater after the war than it had been before.[2] The first group of figures were taken as evidence that "in a free competitive market with ample supplies in relation to demand price at any time is measured by the cost of production of the marginal producer. As that price yields no profit and is not liable to tax, price is not affected by it." [3] The second group of figures were regarded as *prima facie* evidence that the income tax was not passed on in the form of higher prices. The only way in which a tax upon net profits can be passed on is by an increase in the ratio of profits to wages or profits to turnover and as the gross margin had remained the same whilst tax rates had greatly increased, the Committee, though appreciating the fact that "the years before and after the war were different as regards the conditions of trade" [4] were, nevertheless, prepared to regard the figures as "very striking" and good evidence in support of the theoretical arguments of the economists.

In their consideration of 'effects' the Committee were also very much influenced by the evidence of the economists. Professor Pigou having argued that the 'incidence' of a tax on profits could not be shifted was quite prepared to admit that the tax "indirectly in so far as it causes people to work and save less might have an effect upon prices." [5] The Committee followed this method of approach and discussed the effects of the tax upon company saving and investment [6] and upon

[1] *Report*, para. 307.
[2] *Report*, para. 309.
[3] *Report*, para. 308.
[4] *Report*, para. 309.
[5] *Evidence in chief*, para. 32.
[6] *Report*, paras. 392–402.

entrepreneurship [1] but found on examination that the tax was not having any marked effect upon these aggregates [2] and consequently was not having any considerable effect upon the general level of prices.[3]

As Sir Henry Clay has recently pointed out [4] there can be little doubt that these conclusions arising out of the last full scale examination of the problem in this country have had some influence in bringing about the marked trend in favour of company taxes in recent years, and it is therefore interesting to examine the extent to which they should command attention at the present time.

It is important to realise the different quality of the Committee's findings with respect to 'incidence' and 'effects. The conclusions on 'incidence' though backed up by statistics were essentially deductions arrived at from the examination of an abstract model whilst those on 'effects' were based upon empirical investigations. The former conclusions follow from the assumptions upon which the model was constructed and if we wish to criticise them we must criticise the reality of the assumptions or the logical soundness of the deductions. The latter, however, depended upon an examination of a set of facts at a particular time and as there have been many changes since 1927, higher tax rates ; spread of Trade Associations ;

[1] *Report*, paras. 403–404.

[2] "To judge from figures supplied by the Board of Inland Revenue relating to 1912, 1922, 1923 it appears that in spite of the income tax aggregate reserves have been maintained at about the pre-war level after allowance for changes in the value of money," (para. 440).
"Enterprise in the creation of new public companies and in the development of existing companies depends primarily on the general prospects of trade and on the surplus of capital available to industry. As an element contributing *if only slightly* to the depressed outlook of the trader the Income Tax must in some degree be unfavourable," (para. 446).

[3] It is not very clear how the Committee thought that a change in the level of investment or the supply of entrepreneurship would effect the general level of prices. It would seem that they had some crude Quantity Theory of Money concept in mind (see para. 438) and that they reasoned that a reduction in investment or enterprise would lead to a reduction in the output of goods and services which would, in turn, bring about an *increase* in the price level.

[4] "A note on taxation and prices," *Progress*, Spring, 1953.

changes in technology, etc. ; there is no reason to accept the committee's conclusions under this head as relevant to-day.

On the whole those sections of the Report which dealt with 'incidence' were well received in 1927 and the ideas in them have continued to receive favourable comment throughout the past twenty years. D. H. Robertson [1] was the one critical economist at the time the Report was published. He took the view that the Committee had erred in thinking that profits were a pure surplus and had neglected the fact that the supply of enterprise was linked to the level of profits, though he thought that the practical importance of this error was slight as, in his opinion, the supply of enterprise was very inelastic. Comments along similar lines to that of D. H. Robertson have been made from time to time [2] but on the whole there has been little drastic criticism, and Professor Goode in his recent splendid examination of the American Corporation Income Tax came to a similar conclusion namely that the tax was in fact a levy on economic surplus in the short period.[3]

This sort of conclusion, however, follows from the assumption that firms are maximising profits in the short run. If firms do not maximise profits in this way then it does not follow that a tax upon profits has no effect upon the price and output policies of the company. It may have or it may not. The Committee recognised that it was possible that firms did not maximise profits and in particular they mentioned the

[1] "The Colwyn Committee and the price level," *Economic Journal*, December, 1927. See the comments on this paper by T. R. Snavely, "The Colwyn Committee and the incidence of the Income Tax," *Quarterly Journal of Economics*, August, 1928.

[2] *Eg.* K. E. Boulding, "The incidence of a profits tax," *American Economic Review*, September, 1944.

[3] R. Goode, *The Corporation Income Tax*, New York, 1951, p. 54.

possibility of tax shifting in a period of inflation,[1] but on the whole they were convinced that there was no substantial section of industry not maximising profits.[2] Without prejudging the issue as to whether or not firms maximise profits in "normal" times our experiences since the end of the war of prices in many markets being too low to equate demand and supply are surely sufficient to justify scepticism towards conclusions about the effects of company taxes since 1945 which depend upon making such an assumption.

There is need for an even more sceptical attitude towards the Committee's conclusions about 'effects.'[3] Developments in our understanding of the factors determining the level of national income and in methods of tax analysis throw grave doubts upon their whole approach. In order to discuss, sensibly, the effects of taxes it is necessary to limit the scope of the investigation by making assumptions about the total level of government expenditure and taxation. As regards the former a reasonable assumption to make is that total

[1] "In a period of rapidly rising prices the inducement to cut prices is removed and under these circumstances the imposition of a tax of any kind will afford the producer an excuse for asking a still higher price," *Report*, para. 313.
In a comment on the applicability of the Committee's conclusions at the present time Professor J. R. Hicks has stated : "I do not think as applied to a situation as we have at present that economists have any *parti pris* in this matter. We are dealing with an inflationary position in which economists at any rate are perfectly prepared to admit that things might be different," *Minutes of evidence taken before the Royal Commission on the Taxation of Profits and Income* (hereafter referred to as R.C.). Question 1206.
Some economists have gone a long way beyond Professor Hicks' gentle agnosticism. Professor Lowell Harriss has written (*Survey of Contemporary Economics*, Vol. II, p. 265) with reference to the U.S. Corporate Income Tax that "it is increasingly recognised as a mass consumption tax like sales and payroll taxes." Unfortunately, Professor Harriss does not give us the references that have led him to this conclusion. See also : E. E. Oakes, "The incidence of a general income tax," *Papers and Proceedings of A.E.A.*, March, 1942, and H. M. Groves, "Personal versus Corporate Income Taxes," *Papers and Proceedings of A.E.A.*, May, 1946.

[2] *Report*, paras. 305 and 312. Professor Goode (*op. cit.*, pp. 46–54) takes a similar view.

[3] I have already stressed how the mere passage of time makes it highly unlikely that they are relevant at the present time.

expenditure is fixed independently of the level of tax proceeds [1] and as regards the latter that the total amount of revenue is fixed. With these assumptions the study of the 'effects' of taxes is essentially a relative one, a comparison of the 'effects' of two taxes each producing a similar revenue (or a certain given objective) the level of government expenditure remaining the same. Later in the paper when we discuss the general effects of company taxes the problem will be tackled within a framework of this type. At this stage it is only necessary to point out that the Colwyn Committee fails to set the stage in this manner, therefore rendering much of their analysis meaningless.

Over the years the Committee's distinction between 'incidence' and 'effects' has come in for a lot of criticism. It is, of course, useful and convenient to discuss the effects of taxes in the short and long period but it is important that the two analyses should be linked and that a disproportionate amount of attention should not be paid to one rather than the other.[2] The fact that two entirely different names have been used to describe the short and longer period effects and the fact that one was a 'scientific' term and the other an 'ordinary' one has been a contributory reason towards the over concentration upon 'incidence'—surely the less important problem—and towards the failure to integrate the two approaches; in the remainder of this paper the words will be eschewed.

[1] A number of economists have argued that we cannot discuss the effects of taxes without taking account of the way in which the revenue is spent. See, D. Black, *The incidence of Income Taxes* (Macmillan, London, 1939), and M. H. Gillim, *The incidence of Excess Profits Taxation* (New York, 1945). See also: R. A. Musgrave, "General Equilibrium aspects of Incidence Theory," *Papers and Proceedings of the A.E.A.*, May, 1953.

[2] The Colwyn Committee were not, of course, responsible for the distinction between 'incidence' and 'effects.' Cannon complained as far back as the 1890's that economists were neglecting the more important aspects of the economics of taxation because of their concentration upon 'incidence.' (*Memoranda chiefly relating to the Classification and Incidence of Imperial and Local Taxation of the Royal Commission on Taxation*, 1899). For some later objections see U. K. Hicks, "The Terminology of Tax analysis," *Economic Journal*, March, 1946.

III.

In this section we shall examine the extent to which the recent increases in company taxation have tended to reduce the level of company savings. Clearly this question is closely related to the problem of whether companies have been able to pass on their taxes to consumers in the form of higher prices. If they have then, *prima facie*, there is no problem as regards the level of savings. If they have not then there is a problem. The opponents of the present rates of company taxation make use of both of these possibilities. On one hand it has been suggested that company taxes are bad taxes because they are regressive and lead to higher prices and profits.[1] On the other hand the taxes have been attacked on the grounds that they reduce the level of company saving and so tend to reduce the level of company investment below what it otherwise would have been.[2] Now it is not possible for any statistical study to tell the whole story about the effects of company taxation on the level of prices and investment. In particular statistics cannot throw much light upon the effects of company taxation on the willingness of entrepreneurs to invest. Here, however, our object is to examine the impact of company taxation upon the level of company savings ; concentrating, that is to say, upon possible changes in the availability of funds with which to carry out investment, and ignoring at this stage repercussions upon the desire or willingness to invest.

Table III shows how companies have been able to finance the investment that they have carried out since 1948 from internal sources, and contrasts the position with that of 1938 when it was necessary for them to borrow.

It is, perhaps, surprising to note that companies have been in a position to supply capital to other sectors of the economy particularly when it is realised that the level of company investment is higher as a percentage of the national income than it was before the war. It is true that overall figures of this

[1] *Memorandum submitted to R.C.* by the Association of British Chambers of Commerce. (Day 6).

[2] S. P. Chambers, "Changes in the supply of capital for industry in Britain," *Banca Nazionale Del Lavoro*, July–September, 1952.

TABLE III
COMPANY FINANCE AND INVESTMENT

RECEIPTS	1938	1948	1949	1950	1951	1952
	£m	£m	£m	£m	£m	£m
Net Trading Profits (incl. stock appreciation) ...	517	1,423	1,401	1,602	1,968	1,884
Other Income	342	618	579	748	769	801
Depreciation allowances ...	185	324	434	496	538	443
Capital Transfers (E.P.T. refunds and War Damage compensations, etc.)	—	78	63	46	36	33
Total	1,044	2,443	2,477	2,892	3,311	3,161
PAYMENTS						
Dividends	657	746	715	729	839	883
Tax Payments	90	555	757	750	684	893
Investment (including stock appreciation)	340	955	834	1,135	1,625	600
Total	1,087	2,256	2,306	2,614	3,148	2,376
Surplus of receipts over payments	—43	187	171	278	163	785

Sources : As in Table I.

type can conceal the difficulties of individual industries and firms but nevertheless the broad picture that emerges is very much healthier than one would have imagined by reading the comments of certain financial journalists.[1] One reason for our surprise is that we have become accustomed to linking the Public Corporations with Companies in calculations of this type. This is done in Table IV and it is obvious straightaway how

[1]Professor Paish has pointed out in an article entitled "Sources of finance for British industry," which appears in *A survey of the British economy to commemorate the 20,000th issue of the Financial Times*, certain reasons why figures of this type may be misleading. He reminds us firstly, that the National Income entity "British Companies" is a far wider category than British industrial companies as it includes a very large number of financial and commercial enterprises, and secondly, that "investment" means investment in the U.K. and many companies whose assets lie abroad transfer capital to the foreign sector when they invest, thus their savings are included in the figures but not their investment.

the position of the Corporate sector as a whole is less satisfactory than that of companies, due to the continuous "deficits" of the Public Corporations which, of course, cannot be related to the level of corporate taxation.

TABLE IV
CORPORATE FINANCE AND INVESTMENT

RECEIPTS	1948	1949	1950	1951	1952
Net Trading Profit (incl. stock appreciation)	£m 1,501	£m 1,488	£m 1,712	£m 2,117	£m 2,040
Other Income	633	594	763	784	818
Depreciation allowances	395	529	606	670	885
Capital Transfers	78	102	46	36	33
Total	2,607	2,713	3,127	3,607	3,476
PAYMENTS					
Dividends	804	803	821	945	1,001
Tax Payments	557	757	755	690	919
Investment (including stock appreciation)	1,178	1,144	1,449	2,085	990
Total	2,539	2,704	3,025	3,720	2,910
Surplus of receipts over payments	68	9	102	—113	566
Surplus of Public Corporations	—119	—162	—176	—276	—219

Sources : As in Table I.

We have seen that the finance that companies have had available during the post-war years for investment purposes compares very favourably with what they had in 1938. How has this happy state of affairs come about when we know that rates of taxation and the amount of money collected in taxation have increased very considerably? Table V indicates the answer. It is obvious that neither Gross Trading Profits [1] nor

[1]Owing to the many changes that have taken place since the war in the statutory depreciation allowances it is preferable to discuss investment, profits, and savings as "gross" entities, *i.e.* inclusive of depreciation.

Gross Income increased sufficiently to offset the increased tax liabilities and yet Gross Undistributed Profits are on the whole higher after the war than in 1938. The reason is the great reduction in dividends. Dividends, as a percentage of Wages plus salaries falling from 22·9% in 1938 to only 10·6% in 1952, thus offsetting the increased tax payments.

TABLE V

ALL ITEMS AS PERCENTAGES OF WAGES PLUS SALARIES

	1938	1948	1949	1950	1951	1952
Gross Trading Profits (after stock appreciation) ...	26·5	25·3	25·4	23·6	23·7	27·9
Gross Income (after stock appreciation) ...	38·4	35·3	34·2	34·3	34·5	37·5
Taxation	3·1	8·9	11·5	10·7	8·8	10·7
Dividends	22·9	12·0	10·8	10·4	10·8	10·6
Gross Undistributed Profits (after stock appreciation) ...	12·4	14·3	11·9	13·1	14·1	16·2

Sources : As in Table I.

There is no evidence, here, to suggest that companies have been lacking finance for investment purposes as compared with 1938. Nor is there evidence to suggest that companies have passed on their taxes to the consumer. To argue so it would be necessary to show that there had been a fairly big increase in the ratio Gross Trading Profits to Wages plus Salaries, which has clearly not been the case. The best summary of the changes is that the increase in tax payments has been at the expense of shareholders rather than at the expense of either undistributed profits or consumers.

The position outlined above can be elaborated with the help of material from the 1951 and 1952 reports of the Board of Inland Revenue. In these reports tables appear for some twenty-eight industry groups which give details about the relation of companies' costs, profits, and appropriations of

income to turnover.[1] From the two reports it is possible to obtain statistics for the income tax years 1937–8, 1938–9, 1939–40, 1949–50 and 1950–51. These figures have been taken from accounts forming the basis of assessments for the above years and thus relate approximately to the trading operations of 1936, 1937, 1938, 1948 and 1949. In Table VI the items listed under the heading pre-war are averages of the three available pre-war years and those listed under post-war are averages of the two available post-war years.

The pattern that emerges from an examination of Table VI is very similar to that shown in Table V.[2] A comparison of pre-war and post-war weighted averages of the Gross Income, Taxation, Distributed Profits and Gross Undistributed Profits of the 28 industries gives no support to the view that company taxes were passed on to the consumer or to the view that undistributed profits were adversely affected. Gross Income as a percentage of turnover falls from

[1]To indicate the scope of the information the table in the 1952 Report dealing with Vehicles is here reproduced.

	1938–39	1949–50	1950–51
Turnover	100	100	100
Costs (*a*) Materials ..	65·2	68·7	65·4
(*b*) Personnel ..	26·1	20·6	19·8
(*c*) Other	3·8	4·2	5·1
Increase in Stock	4·5	2·6	—0·9
Trading Profit	9·3	9·1	8·8
Depreciation Allowances ..	1·7	1·5	1·4
Net Trading Profit	7·6	7·7	7·4
Losses	—	0·2	0·2
Other Income	1·5	0·4	0·4
Total Income	9·2	7·9	7·7
Distributions (gross)			
(*a*) Dividends ..	4·6	2·1	1·9
(*b*) Loan Interest ..	0·2	0·1	0·1
(*c*) Royalties ..	0·2	0·1	0·1
Profit Tax	0·2	1·0	0·9
Income Tax	1·2	2·1	2·1
Balance	2·7	2·6	2·6

[2]The position may be summarised as follows :—

Number of	Gross Income	Taxation	Dividends and interest	Gross Undistributed Profits
Increases ..	9	26	1	14
Decreases ..	9	—	26	1
Constants ..	10	2	1	13

The pre-war and post-war figures are regarded as constant if the difference between them is less than 1% of turnover.

TABLE VI

INDUSTRY	Approx. gross income assessed 1950–51 Amounts in £ millions	All figures are percentages of turnover							
		Gross Income		Taxation		Dividends and Interest		Undistributed profits and depreciation	
		Pre-War	Post-War	Pre-War	Post-War	Pre-War	Post-War	Pre-War	Post-War
Mining and quarrying other than coal	7·6	19·6	17·2	1·9	3·9	11·3	4·8	6·4	8·5
Treatment of non-metalliferous mining products other than coal ...	37·1	17·9	14·4	2·4	4·4	9·5	3·9	6·1	6·0
Chemicals and allied trades	83·0	22·1	12·4	1·7	3·2	15·7	4·7	4·7	4·6
Iron and Steel	79·6	11·9	12·4	1·6	3·9	5·5	3·6	4·9	4·9
Non-ferrous metals	19·6	9·1	9·7	1·4	2·4	4·2	4·5	3·5	2·8
Shipbuilding and non-electrical engineering	135·8	13·7	14·5	2·1	5·1	6·0	3·2	5·7	6·1
Electrical engineering and electrical goods	60·5	16·7	13·1	2·6	4·3	6·6	4·4	7·5	4·3
Vehicles	74·2	11·1	9·2	1·6	3·0	4·9	2·2	4·6	4·0
Metal goods not elsewhere specified	51·7	14·4	14·9	2·0	5·1	7·7	3·7	4·7	6·1
Precision instruments, jewellery, etc.	14·2	3·8	12·2	0·6	4·5	1·7	2·6	1·4	5·0
Cotton	54·2	6·9	11·8	0·5	4·5	3·7	2·2	2·6	5·0
Wool	40·0	6·8	12·4	0·6	4·7	4·2	2·5	2·0	5·1
Other textiles ...	68·8	9·0	12·9	0·6	4·7	5·2	2·5	3·3	5·7
Leather, leather goods and fur ...	11·9	4·9	13·3	0·4	5·5	3·2	2·2	1·2	5·5
Clothing	39·5	7·5	8·8	0·8	3·4	4·8	2·0	1·9	3·5
Food	67·4	8·8	8·2	0·9	2·3	5·6	2·8	2·3	3·0
Drink	47·0	18·7	11·7	2·1	3·3	12·1	5·1	4·4	3·2

[continued on next page

TABLE VI—*continued.*

INDUSTRY	Approx. gross income assessed 1950–51 Amounts in £ millions	All figures are percentages of turnover							
		Gross Income		Taxation		Dividends and Interest		Undistributed profits and depreciation	
		Pre-War	Post-War	Pre-War	Post-War	Pre-War	Post-War	Pre-War	Post-War
Tobacco	29·7	11·0	3·7	0·9	0·8	9·4	2·3	0·7	0·5
Manufactures of wood and cork ...	17·3	8·9	10·0	1·3	3·6	4·2	2·0	3·4	4·4
Paper and printing	68·3	13·8	15·3	1·4	4·9	8·0	4·7	4·5	5·8
Other manufacturing industries... ...	26·7	13·1	12·6	1·4	3·8	7·5	3·6	4·1	5·2
Building and contracting	34·8	6·9	6·8	1·1	2·3	3·1	1·0	2·7	3·4
Road Transport ...	32·8	21·9	19·4	1·8	2·1	8·5	6·4	11·7	10·8
Other transport and storage (ex. railways and shipping)	20·5	27·9	14·5	1·7	3·8	20·6	4·3	5·6	6·3
Distributive trades (wholesale) .	148·9	5·2	4·9	0·6	1·8	3·1	1·3	1·4	1·8
Distributive trades (retail) ...	118·2	7·6	7·2	0·9	2·5	4·9	2·2	1·8	2·5
Entertainment and sport	22·3	16·3	18·2	1·6	6·1	11·5	6·4	3·1	5·6
Other Services	34·9	12·4	11·6	1·1	3·4	8·3	3·8	2·9	4·3
Weighted Average of above industries[1]		11·84	11·14	1·34	3·56	6·68	3·14	3·83	4·41

11·84% to 11·14% of turnover and, although Taxation increases from 1·34% to 3·56% of turnover, Gross Undistributed Profits also increase from 3·83% of furnover to 4·41% and it is clear that the main reason for this favourable movement is the considerable fall in the percentage of income distributed to shareholders and creditors.

[1]The individual industry percentages are weighted by their 1950–51 gross income.

The evidence that we have examined in this section of the paper shows that as compared with before the war there has been little change in the relationship of Gross Profits or of Gross Undistributed Profits to turnover, and that the increase in the proportion of profits going in taxation has been more or less matched by a reduction in dividends.

IV.

As the conclusion reached above is, perhaps, somewhat provocative it seems reasonable before proceeding further to discuss in some detail what is perhaps the most widely quoted source of the contrary point of view, namely the Federation of British Industries' publication "The Effects of Inflation on Industrial Capital Resources." The investigations reported therein purported to show that the post-war rates of company taxation—combined with rising prices—were having a serious effect upon the level of company savings and investment.[1] These conclusions were based upon the replies to Questionnaires submitted by eighty member companies. Comparing the fixed assets of the companies between 1938 and 1949 it was found that in real terms they had increased by 13% using one method of calculation and decreased by 3½% using another.[2] Net current assets had increased by 9½% and the change in total assets was an increase of 11% or 3½%.[3] Owing to the increase in prices from 1939 to 1949 extra finance to the extent of either 268 or 292 million pounds [4] were required merely to maintain capital intact and only 199 million pounds of this were obtained from profits retained in the business thus necessitating borrowing in order to maintain capital intact. These two facts—the small growth of capital and inability to finance replacement

[1] "The amount of undistributed profits put to reserve in the last few years has been inadequate to maintain industry's capital over the years. Yet the proportion of profits distributed has not risen but fallen. It is clear, therefore, that the levels of prices and profits have not been excessive but too low to sustain the burden of taxation under existing methods of computation and to maintain the productive capacity of industry," (*F.B.I. Study*, para. 34).

[2] Details of the two methods are given in the *F.B.I. Study*, paras. 11–20.

[3] Depending on the method of calculating the changes in fixed assets.

[4] Depending on the method of calculating the changes in fixed assets.

from retained profits—were regarded by the F.B.I. as evidence that the level of taxation was too high and was having bad effects.[1]

The F.B.I. calculations are open to criticism in a number of places. In the first place it has been argued [2] that no matter how true a picture the "Study" gives of the eighty firms it does not give a picture typical of British companies generally. To demonstrate the point the T.U.C. made similar calculations to those of the F.B.I. for eighty companies selected at random from accounts of companies issued by Moody's Services Ltd. They found that for these companies fixed assets increased by either 2% or 13% [3] and current assets by 30%. Total assets increased by 15% or 20%.[4] They also found that whereas the F.B.I. firms could only find some 68·4% or 74·3% of the finance necessary to maintain capital intact the "Moody" firms could find 91% or 100% [5]. The T.U.C. concluded from this that the F.B.I. firms could not be regarded as typical of the general run of British Companies.

Secondly, the F.B.I. calculations can be criticised on the ground that it is misleading to compare the stock of capital in 1938 and 1949 and to use the fact that there was little change between the two years as evidence of a too high rate of company taxation. The years 1938–1949 are really composed of two distinct periods. In the first, the war years, there was a continuous running down of capital and in the second, 1945–49, there was positive investment. The figures given in Appendix B of the F.B.I. "Study" clearly indicate these two periods and show moreover that the eighty companies had been able to make good the ravages of the seven war years in the four years 1945-9. In fact, in the years since the war they had been able to increase their net assets by some 13% which is not very good

[1]For similar views see the *Evidence submitted to R.C.* by The British Bankers' Association (Day 6), and the Taxation and Research Committee of the Association of Certified and Corporate Accountants' volume, *Accounting for Inflation*, London, 1952, pp. 28–42.

[2]*Supplementary Memorandum submitted to R.C.* by the T.U.C. (Day 14).

[3]Depending on the method of calculating the changes in fixed assets.

[4]Depending on the method of calculating the changes in fixed assets.

[5]Depending on the method of calculating the changes in fixed assets.

evidence in support of the Federation's case that post-war company taxation was having a crippling effect upon industry. The failure to divide the period 1938–49 into a war and a post-war period leads the authors of the F.B.I. "Study" to make some rather unfortunate statements.[1]

A third criticism is that we are not given information about either the total amount of profits distributed to shareholders in 1938 or in any of the post-war years and, though we are informed that the percentage distributed fell from 27% of total profits in 1945 to 22½% in 1949, we are not told what the percentage was in 1938. This lack of information means that we are not in a position to agree or disagree with the statement that "any suggestion that the companies could have avoided seeking outside finance by reducing the amount of profits distributed is not borne out by the facts." [2]

The above reasons are deemed sufficient to demonstrate that the F.B.I. "study" is not conclusive evidence against the view that was put forward in the previous section. It will probably not be disputed that the "study" has been the best documented of the attacks upon the post-war level of company taxation and we feel in a position to continue the analysis we left off to make this digression.

Before proceeding, however, it is desirable to comment upon the common charge that in recent years the effective rate of taxation upon companies has been greater than the nominal rate owing to the fact that the Board of Inland Revenue, following customary accounting practice, define profits for tax purposes upon Historical Cost rather than Replacement Cost Accounting principles.[3] There is no doubt that the tax burden

[1]The same error vitiates much of the Bankers' Memorandum. They show quite convincingly that companies were much less liquid in 1950 than in 1945 and deduce from this that taxation and inflation are contributory reasons. They may be, but it is well known that during the war liquid assets increased because of the difficulty of carrying out repairs and replacement and it was only to be expected that there would be a reduction after 1945. A comparison of the 1945 and 1950 positions is worthless.

[2]*F.B.I. Study*, para. 26.

[3]See : *Memorandums submitted to R.C.* by the Association of Certified and Corporate Accountants (Day 13), and by the Institute of Chartered Accountants in England and Wales (Day 15).

upon enterprises is increased in a period of rising prices with historical cost accounting as compared with replacement cost accounting, and decreased in a period of falling prices. It is not intended here to go into the morality or expediency of this or enter into the accounting controversy concerning the rightness or wrongness of the various methods of profit computation.[1] What we aim to do is to indicate the important role that Initial Allowances [2] have played in limiting the tax burden upon enterprises and in offsetting the effects of rising prices.

At a statistical level Table 7 shows very clearly that there has been no relative decline in the total of statutory depreciation allowances (including Initial Allowances) and consequently little foundation upon which to build a general attack upon the adequacy of the depreciation allowances allowed by the Board of Inland Revenue.

TABLE VII

	Statutory Depreciation Allowances	
	As percentage of G.N.P.	As Percentage of Wages plus Salaries
1938	5·2	9·2
1948	5·5	9·3
1949	6·6	11·0
1950	7·1	11·7
1951	7·2	11·6
1952	6·2	9·9

Sources : As in Table I.

[1]Good treatments of this problem from the economists' point of view are to be found in the following :—*Report of the Committee on the Taxation of Trading Profits*, CMD 8189, Chapter III ; W. Prest, "Replacement Cost Depreciation," *Accounting Research*, July, 1950 ; *Evidence submitted to R.C.* by Mr. Peter Wiles (Day 12).

[2]First introduced in the Income Tax Act 1945 at 20%, increased to 40% in the 1949 Finance Act, abolished in 1951, and reintroduced at 20% in 1953.

The Initial Allowances are commonly regarded as temporary interest-free loans from the Exchequer to firms carrying out investment. As such they are generally welcomed by business men, especially those controlling small firms which do not have ready access to external finance and by those engaged in risky enterprises who appreciate the fact that the loans do not have to be repaid if the firm ceases to make profits.[1] Their role is, however, more important than this, for it can be shown that it is highly likely that the introduction of a permanent system of initial allowances will lead, over a period of years, to a reduction in—rather than a postponement of—tax payments, thus giving the taxpayers a definite advantage.

Let us assume that a company has ten machines, that the life of each machine is ten years and that depreciation is carried out on the straight line method. Let us further assume that the firm intends to maintain its capital intact and has no intention of expanding, and that we are discussing a situation in which the age distribution of the company's assets are normal in the sense that one machine is due for replacement, one is nine-tenths depreciated and so on.

In the absence of Initial Allowances and assuming that the general level of prices remain constant, the sum of the depreciation allowances each year is equal to the required replacement expenditure. If the cost of each machine is one hundred pounds the sum of the straight line depreciation allowances allowed on the nine old machines (ninety pounds) plus the first year's depreciation allowance on the new machine (ten pounds) will be sufficient to finance the replacement of the tenth. The introduction of a 20% Initial Allowance alters this. As can be seen in Table VIII there is an excess of depreciation allowances over replacement expenditure in the first year of eighteen pounds and the excess continues till the tenth year when the sum of the depreciation allowances becomes equal to the required replacement expenditure. This equality continues from the tenth year.

[1]The only opposition (as distinct from passive acceptance in lieu of something regarded as more preferable) comes from accountants who dislike the complications created by the Initial Allowance in determining 'profits' in a particular year.

TABLE VIII.

INITIAL ALLOWANCES AND REPLACEMENT EXPENDITURE.

Machines	Depreciation Allowances										Total Depreciation Allowances	Years Replacement Expenditure
	1	2	3	4	5	6	7	8	9	10		
Year 1 ...	(28)	10	10	10	10	10	10	10	10	10	118	100
2 ...	8	(28)	10	10	10	10	10	10	10	10	116	100
3 ...	8	8	(28)	10	10	10	10	10	10	10	114	100
4 ...	8	8	8	(28)	10	10	10	10	10	10	112	100
5 ...	8	8	8	8	(28)	10	10	10	10	10	110	100
6 ...	8	8	8	8	8	(28)	10	10	10	10	108	100
7 ...	8	8	8	8	8	8	(28)	10	10	10	106	100
8 ...	8	8	8	8	8	8	8	(28)	10	10	104	100
9 ...	8	8	8	8	8	8	8	8	(28)	10	102	100
10 ...	8	8	8	8	8	8	8	8	8	(28)	100	100
11 ...	(28)	8	8	8	8	8	8	8	8	8	100	100
12 ...	8	(28)	8	8	8	8	8	8	8	8	100	100
13 ...	8	8	(28)	8	8	8	8	8	8	8	100	100
And so on	8	8	8	(28)	8	8	8	8	8	8	100	100

Brackets indicate year of replacement.

It is clear that the introduction of Initial Allowances has reduced the enterprise's aggregate taxable profits by ninety pounds and the tax liability accordingly. Our model was a very simple one but our conclusions are relevant to the real world. Mr. Butler, for instance, calculated that the effect of the reintroduction of a 20% initial allowance on the revenue would be a loss of £425 millions over a ten year period, and that the effect of a 40% initial allowance would be a loss of

£850 millions.[1] These revenue losses are gains to the enterprises concerned and there can be little doubt that the Initial Allowances have played an important part in bringing about the relatively favourable position of companies noticed in the preceding section.[2]

V.

In the remaining sections of the paper we shall discuss in general terms the effects of the recent high rates of company taxation and comment upon certain arguments that have been put forward concerning them. In turn we shall examine the following five propositions :—

1. (*a*) That the high rates of company taxation have reduced company investment in the period 1945–52, and

   (*b*) that the tax payments have come out of company savings.

2. That the high rates of company taxation have brought about a more egalitarian distribution of income and property.

3. That high rates of company taxation hinder the development of small firms and encourage the growth of monopolistic industries.

[1] *Hansard* (H. C.), 16/6/53. The calculation is based—as was our model—upon the assumption that tax rates and the pattern of investment remain unchanged and that there is a constant level of Gross Investment. A more reasonable assumption would be that Gross Investment was growing at some fairly constant rate. This assumption would lead to a larger "present" than that stated by Mr. Butler. It is also true that growth causes Depreciation Allowances to be greater than Replacement costs even in the absence of any form of Initial Allowance. On both these issues see the following :— E. D. Domar, "Depreciation, Replacement and Growth," *Economic Journal*, March, 1953 ; C. A. R. Crosland, "The Initial Allowances Reconsidered," *The Banker*, September, 1953 ; F. W. Paish, *Business Finance*, (Pitmans, 1953), pp. 87–89.

[2] They have only indirectly helped the firms adversely affected by the taxation of inventory profits and they are unable to assist enterprises that do not invest. Nevertheless, they have mitigated the effects of rising prices as has also the associated high levels of demand and the reductions in the real burden of contractual costs fixed in money terms.

4. That the present company tax structure needs simplifying.
5. That high rates of company taxation have an inflationary influence upon the economy.

The first four propositions will be discussed on the assumption that the level of government expenditure is fixed independently of the level of tax revenue. It is believed that this assumption is a realistic one for the period 1945–1952.

VI.

The level of investment depends fundamentally upon the willingness of entrepreneurs to invest, which is determined by their expectation of gain and upon the availability of investment goods. In the short period the supply of capital goods may be very limited because of shortages of raw materials, skilled labour or plant capable of constructing the particular goods desired but, in the long run, the supply is limited only by the other demands upon the national output arising from the consumption, public,[1] and export sectors of the economy. At times lack of finance may hinder or prevent investment but on the whole finance affects the distribution of investment as between industries and firms rather than the overall level.[2] It is, I think, generally accepted that from the end of the war until 1952, at any rate, business men did not lack the desire to invest and it is suggested that throughout the period it was lack of real resources that limited the rate of company investment. This showed itself not only in government controls but in shortages of raw materials and various types of labour and in long delays between the ordering and delivery of machinery.

[1]Local Authorities and Public Corporations are regarded as part of the public sector.

[2]Lack of finance may be an important factor in preventing the introduction of new products by new firms and there may be "Macmillan gap" problems. Though important these are special problems which have little relevance to the overall level of investment.

The rate of company investment could have been higher only if the real demands of the other sectors had been lower.[1] If the government had so desired this could have happened. The government could have taken direct steps to reduce demand by increasing taxes or by reducing its own expenditure and it is arguable that a government sponsored or allowed inflation might also have had the effect of freeing resources for company investment.

Balance of payments difficulties, political pressures, and strong trade unions made these methods unattractive and suggest that it is reasonable to regard the level of company investment as having been politically or culturally determined[2] during the years 1945–52. In these circumstances reductions in company taxation would not have led to increased company investment for such reductions will only have that effect when there is a strong desire to invest which is held back by lack of finance and, at the same time, there are unemployed resources in the investment good industries or elsewhere in the economy. The fact of full employment since the war and the favourable overall financial position of companies revealed in Section III is strong evidence in support of this contention.

VII.

The argument that the increased company taxes of recent years have been paid out of company savings implies not only that the level of company investment was fixed but also that the amount of distributed profits was fixed relatively independently of the level of total company profits. Our statistical discussion

[1] In a text-book economy these other demands upon resources will be reflected in the market rate of interest which is one of the factors determining entrepreneurs' expectations of gain from carrying out investment. Since the end of the war the real world has not corresponded to that of the text book and for many years the level of investment has been below that which entrepreneurs would have been willing to carry out at the ruling rate of interest.

[2] In the sense that increases in company investment or attempted increased investment spending would have brought certain reactions from the Government or Trade Unions or the Nationalised Industries which would have tended to correct the departure from the previously reached equilibrium. It would appear that companies and suppliers appreciated this for, on the whole, they did not attempt to "overspend" on the one hand or "overcharge" on the other.

in Section III suggested that the effect of increases in company taxation was to reduce dividends rather than reserves. Figures do not explain themselves, however, and in this case they can be interpreted in a rather different way. Recognising that the desire to maintain reserves has been a contributory reason—as has the differential rate of Profits Tax and the requests of Chancellors of the Exchequer for dividend restraint —it is suggested that the main reason for the great fall in the percentage of profits distributed relatively to those maintained in the business has probably been the attitude of many Boards of Directors towards their shareholders. Especially in the large Public Companies, Directors appear to regard the shareholders more as creditors who deserve a steady return upon their loans than as owners entitled to the profits. It is suggested that Directors though rarely prepared to make trouble with their shareholders by reducing the rate of dividend are nevertheless not seeking continuously to reward them. The rising prices and profits of recent years have enabled them to reduce the share of profits distributed to shareholders and the real value of dividends while at the same time maintaining —and in many cases increasing—the rate of dividend.

It is not suggested that security owners will continue to suffer in this way. On the contrary, our argument suggests that in time their share of total profits will increase. I will illustrate this statement by discussing interest payments. Having previously argued that dividend payments are now akin to interest payments the reasoning will be applicable with but slight adjustment to distributed income generally.

A firm in 1938 borrows £100 at 5% and purchases a machine. This machine in co-operation with other factors of production produces a return of 10% before payment of interest. Total profits are, therefore, £10 out of which the creditors receive £5 ; the ratio of distributed to total profits being 1 : 2. In 1952 this machine is still in existence and in an excellent condition (repair and maintenance expenditure being a current cost of production). Prices having risen its value is now £300, and, in co-operation with the other factors of pro-

duction, it produces profits of £30. The original loan is still outstanding and interest of £5 per year is still payable. It follows that the ratio of distributed to total profits is now 1 : 6. Assume now that this firm goes into liquidation, and another firm takes its place. To carry on business it needs a machine costing £300, and the new company borrows the money at 5%. Total profits remain at £30 but the creditors are now entitled to £15 and the ratio of distributed profits to total profits is back to 1 : 2.

The conclusion of this argument is that the present decline in the percentage of profits distributed is only a temporary phenomenon. If the price level remains stable we may expect over the next twenty years or so—as new companies gradually take the place of the present ones—that the percentage of profits distributed will rise to something approaching the 1938 level.

If my hypothesis concerning the behaviour of Boards of Directors is correct it follows that it is unlikely that dividends in the period 1945–52 would have been much higher if company taxation had been lower and—though this is a more doubtful proposition—that they would have been lower if company taxes had been higher. The implication of this is that the effect of the increased company taxes has been to transfer savings out of the control of Boards of Directors into the hands of the government.

Taxation paid out of money which, in the absence of taxation, would have been saved, does not have the effect of releasing resources for the use of the government. To illustrate this point let us consider the case of a government wishing to increase pensions by a hundred pounds, and wishing to finance this increase of transfer incomes by a corresponding increase in taxation. We assume that there is full employment and that the Marginal Propensity to Save of the Pensioners is zero. Now if the effect of the increased taxation is to reduce the taxpayers demand upon resources by a hundred pounds then, clearly, there is no change in aggregate demand. If, however, the taxpayers reduce their demands by only eighty pounds and reduce their savings by twenty pounds, the net effect of the

whole operation is to increase aggregate spending by twenty pounds.

Unless taxation reduces private demand upon resources by the amount of the tax the effect of an equivalent increase in government transfer expenditure will be inflationary. If, however, the government lends the money that has come from savings to someone who (in the absence of taxation) would have borrowed the same sum from the taxpayer there is clearly no net inflationary effect.

The fact that the effect of company taxation has probably been to transfer savings from the private to the public sector does not constitute a *prima facie* condemnation of this form of taxation, as there may be very good reasons why such a transfer should take place. It has also to be realised that other taxes reduce private savings in much the same way. The personal income tax for example taxes income that would have been saved [1] as well as income that would have been spent.[2]

VIII.

If it is accepted that the effect of company taxation is to transfer savings out of the control of Boards of Directors into the hands of the government it follows that high rates of company taxation do not bring about a more egalitarian distribution of income or wealth. If dividends do not react elastically to changes in the rate of company taxation the incomes of shareholders are not greatly influenced by such changes. As the market price of shares is closely linked to the actual and expected rate of dividend it follows that the price of a company's shares will not move in any close relationship with changes in company taxation and that there will be no effect upon the distribution of property. This somewhat paradoxical conclusion is a reflection of the fact that there is no

[1]The situation in the U.K. is highly anomalous. Savings in the form of superannuation contributions and Life Insurance premiums are, to a certain extent, tax free as are savings that arise out of capital gains. Savings in other forms are taxed.

[2]In recent years there has been a revival of interest in the proposals associated with the name of Irving Fisher for a form of Income Tax that would exempt savings from taxation and tax disavings in its various form. See, *Hansard* (H.C.), 2/4/53.

single answer to the question, what is the value of the property of a company? There are at least two answers. Firstly, the value of the stocks and shares of the company as valued by the Stock Exchange; secondly, the price at which the business could be sold as a going concern. The first valuation is a reflection of expected dividends while the second is a reflection of expected total profits.

If my interpretation of the figures is not accepted and it is believed that changes in company taxation have an important influence upon the level of dividends then it is true that the tax rates have an effect upon the distribution of income and capital. An increase in company taxation leading to a reduction in dividends would reduce the share of property income in personal income and would have a corresponding effect upon the total value and distribution of private capital.

IX.

It can be argued that a comparatively low rate of taxation makes it likely that big firms will grow and that monopolistic or oligopolistic market structures will develop.[1] This happens because the big firm has large amounts of savings available for investment purposes and desires to invest them in real assets rather than lend them to other firms.

A high level of taxation, however, is not a satisfactory way out of these difficulties, for it tends to increase rather than reduce the relative advantage of the big firm. The higher the rate of taxation the greater is the need for outside finance both from the banks and from the capital market, and in obtaining this finance the big firms have a clear advantage over the small. Not only are they generally able to offer better security to the bank, but they are often able to obtain additional long term capital fairly cheaply from their own shareholders, and are in a better position to stand the considerable overhead costs if a new issue on the market becomes necessary.[2]

The conclusion here is that a lower rate of company taxation helps the smaller companies because of the imperfections of the capital market: their only source of finance for

[1] *Memorandum submitted to R.C.* by Mr. T. Balogh (Day 12), para. 17.
[2] F. W. Paish, *Business Finance* (Pitmans, London), Chap. VII.

investment is their undistributed profits, whereas the larger firms, have many other sources. Consequently, high rates of taxation discriminate against the small firm. Only in one situation would a high rate of taxation be of assistance to small firms ; if it were combined with a method of making finance readily available to them at very low rates of interest. In such a situation the net result would be that the big firms were being taxed to provide capital for the small.

In recent years high rates of company taxation have been a definite encouragement to the large company. Many deplore this, some for purely selfish and sentimental reasons, others because they believe that the existence of the smaller firm is a defence against restrictive practices and industrial stagnation. Though a reduction in the general rate of taxation would help small firms such assistance would not give them any real advantage over the larger enterprises. If it were desired to give them such an advantage it would be necessary either to strengthen the element of progression in the company tax structure [1] or to give the smaller companies some positive concessions such as special initial allowances. There are numerous practical objections to such suggestions. In particular, there is the possibility of the big companies splitting themselves up into numerous linked smaller companies so as to take advantage of them, though it is probably not beyond the ingenuity of the Board of Inland Revenue to frame legislation in such a way as to limit, drastically, possible infringements of the spirit of such concessions.

X.

At the present time there are three distinct taxes levied upon British companies ; Income Tax, Profits Tax, and E.P.L. The Profits Tax has different rates applicable to undistributed and distributed profits and the effective rate of E.P.L. depends upon the relation between standard and chargeable profits.

[1]Companies are exempted from the Profits Tax if their profits do not exceed £2,000, and where the profits exceed £2,000 but do not exceed £12,000 an abatement is allowed equal to $\frac{1}{8}$ of the amount by which profits fall short of £12,000.

A start has been made in tidying up this complicated structure—which offends against all the traditional 'canons of taxation'—with the abolition of the E.P.L. in the 1953 Finance Act though, of course, the tax will continue to produce revenue for some time to come.

Another well worth while change would be the abolition of the present discrimination against distributed profits for if our hypothesis concerning the behaviour of Boards of Directors is correct it clearly does not have its intended effect of reducing the consumption demands of shareholders. The discrimination also leads to many technical accounting difficulties and gives rise to many anomalies as between companies. To give one example of the odd effect of the differential. There are no provisions in the Income Tax Acts or the Profits Tax Act that charge capital profits to tax but if capital profits are distributed, irrespective of whether they were realised before or after the introduction of the Profits Tax in 1947, the current rate of distributed profits tax is applicable to them.

A strong argument against the present complicated method of taxing companies is that the effective rate of tax tends to be hidden from view because it is so complicated ; voters and Members of Parliament have difficulty in knowing the rate at which undistributed profits are taxed.

For this positive reason there is a great deal to be said in favour of a separate companies tax. And, on the other hand, there are arguments against the present close linking of the company and personal tax structures by the standard rate of income tax. The great advantage is the administrative system of "deduction at the source" but this very real advantage could be kept even if there was no standard rate. It would be possible to have a personal tax and a company tax and, in addition, a rate could be declared each year at which companies and others concerned would have to deduct tax from dividends and similar payments.

The disadvantage of a close link between personal and company taxes is that it is often difficult to bring about desired changes in one without affecting the other. Mr. Crowther has gone so far as to suggest that the high rates of company

taxation in recent years have arisen more by chance than design.[1] He argues that the standard rate was increased because it was desired to increase the progression of the personal tax structure, and the unplanned result of this was an increase in the burden upon companies.

Without going all the way with Mr. Crowther it is not difficult to see that problems can arise when the company and personal tax structures are closely linked, and for this reason as well as on grounds of simplification and legislative convenience there is a strong case in favour of a single special tax upon companies.

XI.

Company taxes bring in large sums of money comparatively painlessly. They are difficult to avoid or evade and as they do not obviously or directly reduce the standard of living of voters, politicians are under a great temptation to increase them.

The political attractiveness of company taxation has certain economic effects. High rates of company taxation leading to the proceeds of this form of taxation constituting an important part of total revenue gives an inflationary bias towards the economic activities of the state. This arises in two main ways. In the first place the ease with which revenue can be raised from companies and the lack of opposition (in terms of votes) tends to lead to a higher level of government expenditure, transfers and loans than would be the case if the revenue had to be raised in a manner that more directly impinged upon the individual voter's standard of living. At times it may be very desirable to have taxes of a type that do not hurt people, but on the whole a fairly distinct and obvious relationship between the burden of taxation and the benefits of expenditure is surely desirable, for, as a much respected economist has written, "The community ought to feel the taxes that they pay as we are far more likely to value

[1]In reply to Question 4502 put by the R.C. (Day 17).

what we know we are paying for than what we suppose we are scrounging." [1]

The second reason is connected with the first and arises directly out of the fact that company taxes come out of income which would have been saved. If a substantial part of government revenue comes out of savings it will often be necessary for the government to have a large budget surplus if inflation is to be avoided. Though this is a possible achievement it is not an easy task for chancellors or governments. Sir Denis Robertson after noting that Sir Stafford Cripps had been able to produce a huge surplus, saw fit to comment that "Sir Stafford Cripps's capable almost single-handed of putting heavy engines into reverse, do not grow on gooseberry bushes, and it is doubtful if they ever will." [2] Governments are very tempted to take a too sanguine view of the overall economic situation, and to under-estimate the required surplus. The inflationary dangers of this are much greater when a large proportion of tax revenue comes from company taxes which produce large increased yields as inflation develops.

Conclusion.

We have argued against the view that the high rates of company taxation since the end of the war have had a serious effect upon the economy but we have also suggested that these tax rates cannot be supported on the ground that they have greatly contributed towards combating inflation, or in promoting greater competitiveness in industry, or a more egalitarian distribution of income or property. Our chief conclusions are : that the overall level of company investment has not been adversely influenced by the level of company taxation : that the tax increases have not been passed on to the consumer in the form of higher prices : and that the increase in company taxation has been almost exactly offset

[1] H. O. Meredith, "Rates and Taxes," *Economic Journal*, September, 1939. This line of argument has to be used with discretion as other considerations play their part—for example, the desired distribution of post tax income and desired consumption of particular commodities.

[2] D. H. Robertson, "What has happened to the Rate of Interest," *Three Banks Review*, March, 1949.

by a fall in the real income of shareholders. Whether shareholders' real income would have been maintained in the absence of these taxes is more difficult to say : we suspect that if company taxes had not increased the main difference would have been a corresponding increase in company savings. It is also not possible to generalise British experience in the post-war years into a theory of what the effects of increased taxation of companies would be in a period of stable prices.

David Walker

University of Manchester.

The Task and Methods of the Monopolies Commission[1]

I must start by explaning that when I undertook to give a paper on the general subject of "monopolies and restrictive practices," I expected to be given an opportunity later, to describe a limited field of discussion within my general subject. I certainly never intended, nor am I in the slightest degree fitted, to give a paper to this most learned of societies on the whole subject of monopolies and restrictive practices. All I ever intended was to choose some aspect of the subject of which I have had experience through my service with the Monopolies Commission. So the subject of my paper will be — the task and methods of the Monopolies Commission.

During its 4 years of life (since it received its first reference on 1st March, 1949) the Monopolies Commission has made six reports to the Board of Trade. Of these, five have already been published (on dental goods, rainwater goods, electric lamps, electric cables and insulin) ; the sixth (which covers two references—matches and match-making machinery) has not yet been published. The Commission is at work on five other references :

Semi-manufactures of copper and copper based alloys ;

Imported timber ;

Electrical and allied machinery and plant ;

Calico printing ;

Pneumatic tyres ; and in the last few days another reference (a general one) has been made.

I was Secretary of the Commission from its establishment at the beginning of 1949 until the end of March, 1952, during which time the reports on dental goods, rainwater goods and electric lamps were completed and published ; I was also concerned in most of the cables enquiry but this report was

[1]This paper was read to the Manchester Statistical Society on 11th March, 1953.

signed after I left. The analysis and views expressed in this paper are personal to me, and the members of the Commission have no responsibility for them.

When it was set up, both the Commission and its staff thought that its reports would be the subject of critical and detailed scrutiny from industry, economists and politicians, and that they would produce hostile comments. Neither of these expectations has been realised. Such criticism as there has been has concentrated on the alleged slowness of the Commission and on the policy of the legislation under which the Commission works.

How much is the task of the Commission understood? and by how many people? Necessarily it is fully understood by those few (very few) Civil Servants who are concerned with the administration of the Act; business men and lawyers who have been involved in investigation by the Commission have every reason to understand it, but probably few others have addressed themselves to its complexities; it is understood more or less by a few journalists who have commented on the Commission's reports. Last, but not least, some (I question whether very many) economists and students have no doubt given themselves a comprehensive picture of its task. Views about the legislation are inclined to be of the rather crude and simple kind in which the Commission is seen either as a body set up to condemn and suppress monopolies, or as a subterfuge under which the whole subject can be put to sleep. Both views are wrong—and both flow from the same set of ideas (ideas which have been current in the United States for the last century) that any form of monopoly is and must always be a wicked thing.

It is appropriate, therefore, to start this description of the Commission's task by saying what it is not. It is not to provide a British version of the Sherman Anti-Trust Act. As I have said, the background of America's legislation is a public conviction that monopolies and combinations are sins against the inviolable right of free competition; so the Sherman Act began by making these conditions and practices

offences against the law, and by providing for their punishment and prevention. As against this, our legislation starts from the basic assumption set out in the White Paper on Employment Policy issued by the Coalition Government in 1944, in the following words :—

> "Such agreements or combines do not necessarily operate against the public interest but the power to do so is there."

On this assumption, our legislation provides for the investigation of monopolies and restrictive practices in order to establish whether their "power" has been used against the public interest, or seems likely to be so used, and for action to neutralise or prohibit any practices found in the particular circumstances of an industry to be contrary to the public interest. But it is implied in the legislation that publication of the Commission's findings (and of the reasons for them), not only to the public but also to the members of the industry and its customers, is an important part of the remedy.

I think it will help to an understanding of the Commission's task if we consider a little how this basic difference of approach between the American and British attitude to monopoly has come about, starting as it did from the same root of the British common law on the restraint of trade. I do not think the difference in approach comes from a difference of understanding or enlightenment. I believe it comes in great part from our different conditions and different history.

American history during the last 50 to 60 years is of a real danger to the community from combination and monopoly in industry, communications, banking. There was a time, I believe, when Pierpont Morgan could imagine himself more powerful than the Government and people of the United States. American industry was sheltered behind a high tariff, and the enormous size of the country, gave those who controlled, for example, the transport of the country, a huge power over the economy. Against these forces, the Sherman anti-trust laws were the only protection which either the "small man" or the consumer had.

On the other hand, British history, at least until the last two decades, was the history of many relatively small firms mainly in competition with each other, and of a consuming public protected from exploitation by a system of free trade. (It is easy to forget that the general tariff was not introduced until 1931). Consequently, the experience which formed and informs many of our old heads in industry—they were the young heads of the 20s and 30s—is not of consumers having to pay too much for what they bought, but of industry receiving too little for what it sold, with the consequence of unemployment and low wages. It is not the history of the small manufacturer or trader being bludgeoned out of existence by industrial giants, but of whole industries—small firms and large alike—suffering a steady depression. This is obviously a greatly over-simplified picture, but I think that it is broadly true and that the general fear which resulted from these conditions is still with us even to-day. Further, experience between the wars demonstrated here all too clearly that competition is not always met by improved efficiency—that, particularly amongst the smaller and weaker firms, it is often met instead by low wages, or low quality in the goods produced, or by failure to renew machinery and buildings. In its extreme form it is fair to call this last "Dust Bowl" competition, by analogy with Dust Bowl farming in the United States; but in a milder form, as failure to spend on modernisation and postponement of re-equipment, it is a natural reaction to bad times which has manifested itself even in the recent textile recession. Thus, the *Manchester Guardian* of 19th November last gives as one of the reasons for a decline in the business of makers of spinning machinery "the textile recession which has made many mill companies abandon or curtail further schemes of modernisation and re-equipment." I believe this general background of experience has had much to do with our thinking on the whole subject of monopolies and restrictive practices and so with the shaping of our present legislation.

The relative size of our home markets has also, I think, shaped the attitude of the two countries on this subject. We in the U.K. have had increasingly to recognise that modern industry requires a certain minimum size if it is to support modern plant and techniques of mass production : before the steel industry could embark upon the huge new works at Margam and Trostre in South Wales, it was necessary for firms already very big to pool their resources in the Steel Company of Wales ; before we could have even one continuous ribbon machine for producing glass bulbs for electric lamps in this country (a machine of which there are several in the United States), the two largest makers of lamps (G.E.C. and B.T.H.) had to combine forces. Neither of these developments could be brought about without an increase in the concentration of economic power. In the case of the glass bulb machine, the owners of the plant will be in a true monopoly position because one of these machines can produce more bulbs per year than our total demand for the home market. The Monopolies Commission examined this particular case of lamp bulbs and recommended certain safeguards. They described this as a "monopoly arising inevitably from technical development." This problem of size in relation to efficiency and monopoly, is now a good deal talked about in America, but it has of necessity been much more in our thinking than in theirs, though I notice that in a book which has just come out with the impressive title of "American Capitalism. An Analysis of U.S. Economy," the author (Mr. Galbraith), makes the same point ; "there must," he says, "be an element of monopoly in an industry if it is to be progressive." In sum, our problem has been one of smallness, theirs of bigness.

So much for the background of experience and conditions against which the Monopolies Commission has to perform. Its duty is to investigate and report upon references made to it by the Board of Trade ; it cannot initiate enquiries either on complaint or otherwise. The Board of Trade acts as the co-ordinating department for all the departments of Government and may refer cases to the Commission when it appears to them that "conditions to which the Act applies" prevail.

The Board of Trade does not have to wait for complaints from the public before making a reference. It is quite free in its choice and, although a large number of complaints have reached the Board since the Act was passed,[1] the references made to the Commission have not been chosen exclusively from them.

References to the Commission can relate (*a*) to the supply of a product on the home market (all the five reports already published are of this kind), or (*b*) to the application of a process to a product (calico printing was referred to the Commission on 16th April, 1951), or (*c*) to the export of a product (the reference of matches to the Commission required them to consider export as well as supply on the home market).

The Board of Trade may also require the Commission to consider a single class of practice, *e.g.* price ringing, as distinct from their enquiry into all the practices surrounding the supply or export of a single product. Until recently no such general reference had been made to the Commission but on the 19th December, it was announced that the Commission have been asked to report upon "exclusive dealing" and "collective boycott." There is a proviso in the Act that general references may be made only if the practices in their particular application have been dealt with in the course of previous reports by the Commission ; it has always (as the President pointed out in his statement in July) been recognised that the accumulation of case studies might suggest that certain practices were widely prevalent and were likely to have similar effects in other industries, and that some authoritative general judgments ought to be formed and made known for the guidance of industry as a whole, on the effect of these practices on the public interest. Inevitably a study of this kind will present difficulties as anyone who has studied the Commission's reports will recognise, since experience thus far has shown that a number of restrictive practices are usually found clustered together and almost inextricably mixed. In announcing his intention to make an early general reference,

[1] A list of these complaints is published in the Annual Report issued by the Board of Trade.

the President noted the difficulties inherent in the Section. It will be extremely interesting to see how the Commission tackle this new and very different task.

The Commission's specific task in each enquiry is spelled out in each individual reference to them, and the reference is reproduced at the beginning of the Introduction to each report. Leaving on one side general references, the Commission's task in relation to supply, or the application of a process or export, as the case may be, is to investigate and report on—

(1) whether conditions to which the Act applies in fact prevail and if so in what manner and to what extent ;

(2) the things which are done by the parties concerned as a result of, or for the purpose of preserving, those conditions ; and

(3) whether the conditions in question or all or any of the things done as aforesaid operate or may be expected to operate against the public interest.

I think the best thing I can do is to take each of these three requirements in turn and describe some of the problems involved. But before I do this I must mention that the Board of Trade can vary this form of reference : they can ask the Commission to report as to no more than (1) and (2), in which case there is no obligation to publish the report ; or they can make a limited reference, asking the Commission to consider either supply, or the application of a process, in a specified part of the United Kingdom only ; or, in the case of a public interest reference, they can require the Commission to confine its report to particular practices. The Board of Trade have made one "factual" reference only (that dealing with copper and copper alloys) and they have not so far used the other variations. In this paper, I confine myself to the most usual type of individual reference, of which alone I have experience, namely the "public interest" reference, under which the Commission have all the above three duties.

(1) *Whether the conditions to which the Act applies in fact prevail and if so in what manner and to what extent.*

This part of the enquiry is basic to the whole procedure and indeed to the whole legislation. If the conditions do not apply, then no further enquiry can be proceeded with and no powers follow. What the Commission are being asked under this head is whether there *is* a monopoly or restrictive practice to investigate. The first point of interest here is that there is in fact no mention either of monopoly or of restrictive practices. It is a curious thing that the English language fails to provide an adequate word to describe the subject of the Monopolies and Restrictive Practices legislation or, for that matter, of the Sherman Anti-Trust Acts. Its subject is certainly not embraced by the word "monopoly," of which in its proper sense there are very few cases ; and it certainly is not a statutory monopoly of the kind granted by the State under Royal patronage or Act of Parliament, *e.g.* the monopoly of the right to produce the Bible granted by the Crown, or the monopoly known as a patent which the State grants every day to inventors, or finally the statutory monopolies created under the various Nationalisation Acts. The words "restrictive business practices" will not suffice, if only because they do not include the idea of monopoly ; and the word "trust" has too many senses, even in commerce. The content of the Monopolies and Restrictive Practices Act is none of these. Its subject is the private, as distinct from State or State-granted, control of a considerable proportion of the supply of any product or process (or export) either by a single firm, or by a number of firms which act together to restrict competition. When it came to the point of drafting the legislation, even Parliamentary Draftsmen could not find any words to cover this conception, so the typically legal form of definition by reference was adopted, which means a definition which cannot be understood without reading the rest of the document—and probably then can be understood only by experts ! As it has been said, everyone knows what an elephant looks like but it would not be easy to describe one

to somebody who had never seen one, especially if the description had to be in legal language. This particular elephant is delightfully named "the conditions to which the Act applies" and is then described in three long sections.

In what circumstances do the conditions apply? In their earlier reports, the Commission took pains to explain. The second paragraph of the Introduction to the Dental Report states that—

> "they prevail when one person or group supplies at least one-third of the United Kingdom market[1] for the goods which are the subject of the reference; and they prevail also when two or more persons taken together supply at least one-third of the United Kingdom market *and* 'so conduct their respective affairs as in any way to prevent or restrict competition in connection with the production or supply' of the goods."

What is involved before the Commission can report on this part of their reference? First, the collection of up-to-date statistics showing the total supply of the goods on the market and the supply by each individual firm (except the very small ones), and the disclosure of the financial links between the larger firms, in order to see whether there is any one firm or group of firms supplying a third of the goods. Second, the disclosure and examination of all agreements and arrangements which might be held to be restrictive of competition to see whether any firms which together supply a third or more of the goods, act together to restrict competition. And this information must be kept current—no small matter when amendments of rules and agreements are likely to take place and changes of figures must take place, in the course of a long enquiry.

Further, it is not enough to find simply that there is one case of a firm or group of firms supplying one-third of the market. Why pick out one firm or group in manufacture or in any stage of distribution rather than another? Moreover,

[1] The conditions may apply also in respect of "any substantial part" of the United Kingdom.

the Act says "if so, to what extent." The Commission have accordingly felt that it was their duty to say as exactly as possible what proportion was controlled and to name every individual, association or firm controlling a third or more of supply, whether as maker or distributor. Thus, in the case of rainwater goods, the Commission picked out not only the British Ironfounders' Association, but also the merchants linked together in a number of different associations, and the large maker, Allied Ironfounders.

There is another point to be noticed in this part of the reference. The reference asks whether the conditions "*prevail*," not whether they "prevailed" at the date of the reference, or have prevailed during the course of the enquiry. You will notice, therefore, that the Commission are careful to make a conclusion from the figures and their trend, rather than to base their conclusion exactly on the figures, which are inevitably of a past date. Thus, in the Rainwater Goods Report, they gave 1949 figures of the proportion of supplies by manufacturers and added "we have no reason to suppose that there has been any substantial change in this proportion during 1950."

I must make brief mention for completeness of the special case of export references, of which I have no experience ; the forthcoming report on matches will be the first case of this kind. The Commission can be asked to examine restrictions affecting export in any individual market or generally. When it came, however, to defining the "elephant" for the purpose of export, a special difficulty presented itself since obviously it was not the intention to subject an exporter to investigation just because he happened to be the only one who had the initiative to go to a particular market. Further, such a one had not control of the market in the sense intended. In the case of export, therefore, the conditions prevail if there is either a single firm *producing* more than a third of the article, or a group of firms together producing more than a third and acting together to restrict competition in any export market or markets.

Although there is all this close study behind it, the report on this first part of the Commission's task, the fundamental factual enquiry, is usually brief. There is no appeal from the

Commission on this one point. Under the present legislation even Parliament cannot question the Commission's view on this—as it can their judgment of public interest—and the Government cannot proceed against an industry under the Act, unless the Commission have found that the conditions prevail.

(2) *The things which are done by the parties concerned as a result of, or for the purpose of preserving, those conditions.*

I for one, have always found this rather a confusing part of the reference if, as is implied, it is to be regarded separately from the first part of the reference. Remember that the conditions of which the precise nature and extent have to be described under the first part of the reference, may be (and usually have been so far) agreements to restrict competition. Clearly, where an agreement to restrict competition is enforced between the parties, the means of enforcement may itself be both a restrictive agreement and also "a thing done by the parties concerned . . . for the purpose of preserving those conditions." I will take examples from one or two of the reports to show what I mean (the point is perhaps of more interest to Civil Servants and economists than to business men) and at the same time to illustrate the kind of thing that has been reported on under this part of the Commission's reference.

In the *Dental Goods* industry, it was found that members of the Association of Dental Manufacturers and Traders (who might be either makers or distributors or both) supplied 89% of all dental goods sold on the home market, and that the conditions of sale of these goods were agreed and laid down in great detail in the rules of the Association. The Association did not fix prices or even margins as it was very commonly believed that they did; what they did was to require each individual manufacturer to fix a resale price for his goods, to to require distributors to maintain those prices, and to lay down elaborate and detailed conditions—even to the establishment of a committee to adjudicate on second-hand prices, and to the prohibition of the sending out of prepaid reply cards to customers—all with the object of establishing and enforcing

resale price maintenance. There you have a simple statement on which the Commission could conclude that the conditions prevailed. The Commission had, however, to go beyond this and describe precisely "in what manner and to what extent" the conditions prevailed; in the course of this exercise, they described how the Association used a "stop list" and exclusive dealing provisions to enforce their rules, with the result that no concern which did not comply with the Association rules could sell its goods through members (if makers) or buy goods from members (if distributors). Looked at one way, the "stop list" and the exclusive dealing provisions were things done for preserving "the conditions" but they could also be considered, quite obviously, as themselves agreements restrictive of competition and so as a part of "the conditions."

On the other hand, the restriction of entry practised in the dental goods industry was, I think, a real by-product of its main practices—a "thing done as a result of the conditions." The report describes in some detail how the Association claimed and successfully exercised the right both to screen and to enforce entry into the Association, with the result that "even so large a concern as I.C.I. found it necessary to enter the A.D.M.T. and to submit to its rules, in order to obtain distribution of its goods." "The A.D.M.T. was," they say, "so powerful as to be able not only to ensure that its members obtained a share in the distribution of Kallodent [the new acrylic product for making teeth], but also to exclude from a share in its distribution, the laboratories whose technical services had greatly assisted in the development of the product." The Commission remarked too on the Association's action "in refusing to allow I.C.I. to give an increased discount to hospitals during the war at the end of 1941." All these were clearly things done "as a result of . . . the conditions."

In the case of *Rainwater Goods*, the Commission found that the members of the B.I.A. supplying over 90% of the trade, and the merchants handling two-thirds of the trade, had jointly agreed in the Rainwater Agreement upon minimum selling and resale prices. These were enforced by exclusive dealing, *i.e.* by the signatories agreeing that terms allowing a margin

for resale would be allowed only to those who signed the Rainwater Agreement and that the merchants would buy only from signatory manufacturers—thus, incidentally, setting up a bar against the distribution of imported goods. Here again, there were practices (exclusive dealing) which could be described at will either as part of the conditions or as part of the things done to preserve the conditions.

In the case of this industry too, however, there were also (or at least had been in the past) practices which are described at length in the report and which came quite clearly under the second head of the Commission's task. Thus, the B.I.A. had established before the war, but had recently disbanded, a "competition company" as it was called, whose job it was (on the basis of contributions supplied by the manufacturers) to quote for business against independent makers, at prices greatly below those fixed by the Association.

In the *Electric Cables* Report, the Commission found that the members of the Cable Makers' Association and the Covered Conductors' Association supplied over three-quarters by value of the total supply of cables and that they maintained systems of common prices and quotas. Several of the constituent Associations of the C.M.A. also maintained, or had maintained until quite recently, a system which they called "allocation." Before the war, this meant that where tenders were asked for by public authorities or others, the makers agreed together (primarily on the basis of the agreed quotas) which maker should have the order, and secured that he got it by arranging for that concern to quote a lower price than all the others. Since the war, the system has not applied so widely but it continued, a difference in delivery dates replacing a difference in price to secure the selection of the chosen maker. The object of this system was to ensure that the quotas upon which manufacturers had agreed were achieved, but it was clearly in itself a restrictive practice and, therefore, one of the basic conditions.

(3) *Whether the conditions in question or all or any of the things done as aforesaid operate, or may be expected to operate, against the public interest.*

In their earlier reports the Commission were careful, before embarking upon their conclusions as to the public interest, to emphasise that those conclusions could only be matters of opinion ; they would have been entitled to expect that their judgments in this almost unexplored area of public policy would arouse a great deal of controversy. Their judgments have, however, been very generally accepted as just and authoritative, perhaps because it was recognised that, if the members of the Commission were not competent to reach a just conclusion on these matters, then it was difficult to see what man or body of men would be. The Commission represent a wide and varied field of experience, they make an exhaustive study of all the relevant facts such as no one else is likely to have the time or inclination to make, they have shown themselves to be painstakingly objective in their approach to the varied problems and they have been demonstrably careful to judge the practices they have found by the facts of the case, and not by the measure of preconceived ideas or theories.

The Commission's task under the head of public interest is certainly large enough to make the proudest feel humble. It is, I suspect, very generally believed that the Commission have only to see whether the practices they find are damaging or otherwise to the consumer. This is very far from being the case. When the Bill was introduced into the House, it contained no definition of public interest but Parliament insisted on including one during the passage of the Bill. This now appears as Section 14 which charges the Commission, when considering the public interest, to have regard :

first to "all matters which appear in the particular circumstances to be relevant," and

second "consistently with the general economic position of the United Kingdom" to the need to achieve a number of very general purposes which appear to have been so drafted as to cover exhaustively all desirable industrial and economic ends. These are :

(*a*) the production, treatment and distribution by the most efficient and economical means of goods of such

types and qualities, in such volume and at such prices as will best meet the requirements of home and overseas markets ;

(*b*) the organisation of industry and trade in such a way that their efficiency is progressively increased and new enterprise is encouraged ;

(*c*) the fullest use and best distribution of men, materials and industrial capacity in the United Kingdom ; and

(*d*) the development of technical improvements and the expansion of existing markets and the opening up of new markets.

The phrasing of the section is so general that it gives no clear guidance as to where the balance of public interest lies amongst all these considerations. Is it more important for prices to be low for the consumer, or for industry to be profitable enough to attract new capital and, let us say, embark on schemes for the benefit of the workpeople ? Is it better for an industry to export goods, or to import dividends by taking part in the development of secondary industries abroad ? Is it necessarily undesirable that a using industry should buy its machinery abroad, thus no doubt supplying its own needs to the best advantage but perhaps discouraging the growth of a specialised machinery industry here ? Is it undesirable for British firms to accept patent licensing agreements under which all important research is carried on abroad ? Is it more important that plenty of licences should be issued under patents, or that they should be issued under conditions (*i.e.* without price maintenance clauses) which may result in fewer licences being issued ? Is there any objection to an association of distributors arranging with manufacturers for its members to receive special discounts, thus giving them advantages over their competitors, and providing a strong incentive to all to join the distributors' association ?

In the final analysis these and questions like them are judgments of policy on which only the Government can decide, and accordingly on this matter the Commission are only advisory. If the Government do not accept the Commission's

view that a practice is contrary to the public interest, the Government have no need to proceed against the industry ; if, on the other hand, the Government think that a practice is contrary to the public interest which the Commission does not find to be so, the Government are able to use their statutory powers of prohibition and control on an Affirmative Resolution of the House of Commons.

In practice, the Commission have not attempted to examine the public interest with precise relation to the matters set out in the Act ; they have used these provisions primarily as a background to their approach to the subject and as an indication that they must consider all relevant aspects of the public interest in the widest sense—the State, the producing and distributing industry, its industrial customers and the ordinary consumer, the maintenance of employment, the country's need for dollar exports, etc. The Commission's reports, therefore, are by no means confined to considering the immediate impact of the "conditions" on the consumer, though his ultimate interest is not dissociable from the other "interests." Thus you will notice from the reports the following conclusions :

(i) The electric lamp price ring is left intact because of the industrial advantages gained from the exchange of technical information which is considered to be inseparable from the price ring.

(ii) Specific safeguards are recommended in regard to the sale of lamp bulbs from the ribbon machine and also to the sale of other components, for the protection of independent makers of lamps.

(iii) Stop lists and exclusive dealing have been condemned in whatever industry they have been found to apply, because they restrict entry into the trade for firms, whether big or small, and deter those within the ring from leaving it for fear of losing their livelihood.

(iv) The Post Office is recommended to leave itself free in future to take a proportion of its purchases of telephone cables (of which it is practically the sole purchaser)

from independent makers, in order to allow of the development of efficient independent competition in the general interests of the State.

(v) Common prices for rubber cables are condemned because they may result in higher prices than necessary to the consumer. But a very austere level of minimum prices is permitted as a safeguard against the possibility that there might be a decline in quality as a result of severe competition. (This effect was thought by the industry to be more likely than it was by the Commission).

(vi) The arrangements made by the insulin manufacturers are approved because they promote technical improvements and efficiency in manufacture, the benefits of which have been passed on to consumers.

These examples are, I think, enough to show that the Commission are very far from taking a narrow view of the public whose interest has to be safeguarded.

The Commission are asked to judge (from all these wide and varying aspects) whether the conditions operate, or may be expected to operate, against the public interest. They are not, as they point out in their earlier reports, asked to say whether the conditions have operated against the public interest in the past ; and since future conduct rather than punishment is the keynote of the legislation, a judgment about the present only would clearly be of little use. What, therefore, the Commission have felt was required of them was that they should be part judge, assessing effects from facts, and part crystal-gazer or Statesman (according to their degree of vanity), judging what is desirable for the future. At this point they must step away from the facts, while still using them as some indication of the likely future ; thus in the Rainwater Goods Report they say :

> "We are not asked to say whether the conditions have in the past operated against the public interest but whether they do so now, or are likely to do so in the future. We have, however, described at length the use and effect of the practices and policies adopted by manufacturers and

merchants in this industry in the past, as these are an important indication as to the likelihood and probable effect of their use in the future."

Another point which I think needs to be mentioned under this head is the fact that the Commission are asked to make a judgment not solely on the general effect of all the practices they find, but also on "all or any of the things done" as well. This may well involve a large number of separate judgments on particular practices. For example—in the final Chapter of the Lamps Report, the Commission begin (para. 263) with a description of the "E.L.M.A. system" viewed as a whole and the conclusion that "on balance we see no sufficient reason why the E.L.M.A. system should be completely broken up but we think that the system may be expected to operate against the public interest in the future unless considerable changes are made . . . " They then go on to make recommendations upon each practice separately—the price ring, the supply of components to independent makers, patents, competition from the controlled companies, quotas, restriction on imports, etc.

Where the Commission find against a practice they are charged with the duty of considering what remedy might be taken to "prevent any mischiefs which result . . . " and they may, if they wish, but are not obliged to, include in their report recommendations as to remedies. In practice, the question of remedies usually arises at this stage and in one sense the two are inextricably mixed. Obviously the question whether a better state of affairs can be suggested is one aspect that practical men must consider before condemning the present state of affairs. But this is not the whole of it. The Act makes a clear distinction between judgment and remedy, requiring the Commission to make the one and leaving them free to leave the other to the Government—in the same way as a doctor is not delivered of responsibility from making a diagnosis because he cannot himself suggest a cure. Here, where judgment and remedy meet, a special measure of foresight is required. Who is to say what would have happened if? or rather what will happen if? Will the rainwater goods industry be subject to destructive competition as the industry

fear, if the Rainwater Agreement is brought to an end? Would the electric lamp industry have survived if it had not made agreements with powerful makers abroad, and will it survive in future if its market-sharing arrangements with the Dutch are brought to an end?

This reading of the future from the circumstantial clues of the past and present is only one aspect of the question of remedies. There may be more than one possible remedy for a given situation, and political considerations are likely to be involved. Doubtless this is why the Government does not impose on the Commission the duty of recommending remedies. It is noteworthy that the consideration of remedies has thus far produced the one major point on which the Commission, and for that matter the public, have had some difference of opinion. Should a single industry which has happened to be investigated by the Commission and has been found to indulge in a practice which is known to be very common in industry, be prohibited from continuing in that practice while other sections of industry, not yet investigated, are allowed to continue? To pursue this question would take me right outside the subject of this paper.

I said earlier in my paper that it was an important assumption behind the Monopolies and Restrictive Practices Act that publication and explanation could chiefly be relied upon to provide a remedy for what was found to be wrong. You will notice that all "public interest" reports are required to be published, and that the Commission are required by the Act (Section 7) both to give reasons for their judgments and to include sufficient explanation to provide a proper "understanding" of the subject matter; further that (Section 9 (*b*)) the Board of Trade's power to exclude matter from a report before publication because it contains secret information which might be damaging to legitimate business interests, is limited to cases in which the information can be omitted "without substantially affecting the sense, clarity or cogency of the report, or the value thereof as an aid to the proper understanding of the subject matter . . ." Throughout runs the conception that publication of the full facts is basic. You may have noticed too that only one Order prohibiting the

practices of an industry has as yet been made (that dealing with dental goods) and that, in the case of rainwater goods and electric lamps, the Government have stated that the industry have amended their arrangements voluntarily in accordance with the Commission's recommendations. Discussions are still proceeding with the Cables industry. There is a provision in the Act (Section 12) under which the Board of Trade can ask the Commission to investigate and report whether its recommendations have been carried out but no request has as yet been made under this Section.

I began this section of my paper by saying that, if the Commission were not fitted to judge the practices they found, then it was difficult to know who would be. You will by now, I think, be inclined to share my doubts whether any other body of men would take the trouble to assimilate enough of the facts to put them in a position to judge. Section 7 of the Act states, amongst other things, that "It shall be the duty of the Commission to include in their report definite conclusions as to the questions covered by the reference . . . " Notwithstanding this somewhat surprising legislative command it is, I think, a remarkable thing that, on a subject so complicated and so difficult intellectually, coherent agreed conclusions have been reached in so short a time, *and* have received so large a measure of acceptance. And this, notwithstanding that the Commission were required also to give their reasons for their judgments. I will dare to say that the Commission's reports have been generally felt, even by the industries concerned, to be understanding and accurate documents and that the assessments and judgments in them have been considered, if not right, at least objective, exhaustive and reasonably understanding. I think this is due to the way in which the Commission have tackled their job, which brings me from the task to the methods of the Commission.

The Commission's methods have been governed by their determination, on the one hand, to give a full and scrupulously fair hearing to all concerned, particularly to the parties whose practices are being investigated and, on the other, to get to the bottom of each and every part of the story so far as it is relevant

to their enquiry. Two sections of the Act have had a considerable bearing on this approach. The first is Section 7, to which I have already referred and which amongst other things, requires the Commission to include in their report :

> "Such a survey of the general position in respect of the subject matter of the investigation, and of the developments which have led to that position, as are in their opinion expedient for facilitating a proper understanding of the matter."

It is this Section which makes the enquiry so long in time and the reports so long in extent. Even without it the Commission would no doubt have felt it to be necessary to include a good deal of the descriptive matter about the industry but I doubt if much history would have found a place, since the Commission would then have had no specific power to call for documents showing the development of the restrictive conditions in the industry in the past. I think this would have been a loss. Clearly, past trends help to an understanding of the present and they may be besides, as the Commission have claimed in more than one report, one of the most useful pointers to the future. It is, moreover, of considerable interest to learn that some of the practices of industries investigated have tended to become more liberal, at least in certain respects, since the war. Thus, the Rainwater Goods Report records that both the "competition" company and the industry's system of quotas were abandoned during the war and had not been restarted, while in the Lamps Report a comparison between the situation before the war and since says, "if the picture of restrictive conditions had been painted in 1939, it would have shown a very much greater degree of restriction both in the practices and in the policies of the members" (para. 260).

The second Section of the Act which has greatly influenced the methods of the Commission, is Section 8 which lays down the Commission's powers. These are extremely wide. There is no excuse for the Commission to be hampered at any point by lack of powers. They can call for any returns and for any documents which are relevant to the investigation, they can require the attendance of witnesses and can take evidence on

oath. They have not, in fact, needed to use the last two powers but they have used very freely their power to call for and inspect documents. They have required the disclosure of all confidential records of meetings and of all correspondence which might disclose, or throw light on, either "the conditions" or "the things done as a result of or for the purpose of preserving those conditions." And this has been found to be a most valuable and necessary part of the investigation. It is deducible, for example, that Chapter 5 of the Dental Goods Report which, amongst other things, describes the way in which the Association's rules restrict entry into the Association, is based throughout on a detailed study of correspondence, and official records of the Association, and that Chapter 7 of the Rainwater Goods Report, which deals with "Discontinued Practices" is built up from contemporary records.

The Commission are free to settle their own procedure unless (which has not yet happened) the Board of Trade give them general directions, but they must hear any person who asks to be heard and appears to them to be substantially interested in an investigation. In fact, relatively little evidence has been volunteered in response to the offer to receive evidence always made by the Commission at the beginning of each enquiry. For the effect of practices the Commission have, therefore, had to rely a great deal on obtaining the views of users and consumers by means of questionnaires.

The Introduction to each of the Commission's reports gives a fairly full description of their procedure. It falls into four main stages. The first is the informal stage when the Commission see the representatives of the industry, hear from them a general description of the industry and its organisations and practices, and explain and discuss future procedure. After this meeting, the Associations' Rules and Regulations are handed in and there are discussions with the industry as to the best way to approach the collection of statistics and costs. Members of the staff and Commission also pay visits to factories in order that they may know something of the processes of the industry. During this stage, therefore, the Commission learn

from informal discussion, factory visits, etc. enough to ensure (in the interests of the industry no less than in their own) that the questions they ask will be informed questions, and that the large amount of statistical and other information which they have to collect will be collected with the minimum of disturbance to the industry.

The second stage of the enquiry is by far the longest. It is the factual stage when the relevant statistical and other information is collected from the industry in all its detail and is checked and cross-checked by means of questionnaires, correspondence, interviews, and examination of records, often on the premises of the Association. The industry are also invited to submit evidence on prices, costs and profits and usually a full scale costing is conducted by accountants working for the Commission. During this stage too, written and oral evidence is obtained from Government Departments, users, consumers, independent makers, and complainants. The factual stage may be said to close with what is called the Clarification Hearing when the Association are heard formally (but usually without Counsel) solely on the facts, questions of "why" and "wherefore," and "should" and "should not," being held over. During this stage all matters of fact required by the Commission for parts (1) and (2) of their reference, as well as matters of fact which may help to form a judgment on public interest, are collected and sifted.

The third stage, the public interest stage, opens with the despatch to any firm or group of firms in respect of which the Commission have found provisionally that "the conditions prevail," of a formal Public Interest letter containing an invitation to a formal hearing. Attached to this letter is a detailed list of the "conditions" and "things done" which have been found by the Commission ; and some possible lines of criticism may also be indicated in order to help the Association or firm concerned to focus their observations on the effect of their practices on the public interest. There is a written reply to this letter after which the formal hearing takes place, the Associations usually being represented by Counsel.

In the fourth and last stage (the report stage) the Commission examine their provisional findings and obtain any further information and observations which they require, at the same time making sure that they have given the industry an opportunity to comment on all relevant points. During the drafting of the report the greatest care is taken to limit the disclosure of information to a minimum. The Introduction to each report contains something on the following lines :

> "Much of the information obtained in the course of our enquiry has necessarily related to the intimate business affairs of those concerned. In preparing our report, we have been careful not to disclose information of this kind unless we consider it essential for the proper understanding of the issues and, in such cases, we have refrained wherever possible from mentioning names."

I can assure you that these words are not lightly written. The Commission insist on knowing everything but are scrupulously careful to disclose only what must be disclosed. Not only is the mention of names and details of the business of individual firms avoided wherever possible, but information about restrictive conditions which is not relevant to the enquiry will also not be disclosed. Thus, in the course of the electric lamps enquiry, which was concerned only with supply on the home market, it was inevitable that a great deal of information should come into the Commission's hands concerning the international arrangements of the industry. Where these were inextricably mixed with the arrangements affecting the home market, they appear in the report but not otherwise.

The Commission's procedure throughout is as informal as circumstances allow and at no time are there formal rules of procedure. Hearings are held in private and there has been no confrontation of witnesses and no cross-examination, except by members of the Commission. It would clearly have been impossible to have public hearings and still maintain the principle that everything must be revealed to the Commission, leaving them to disclose in their report only the necessary minimum.

The Commission have been criticised for slowness. I think that anyone who has persevered to the end of this paper will be more inclined to wonder at their speed in getting through so many complicated investigations in the space of only 4 years. They have been able to achieve this for two main reasons I think. The first is that they have received on the whole the co-operation of the industry investigated. The second is that they have arranged their work in such a way that only a few members need be closely concerned with the preliminary and purely factual stages of each enquiry. By this means a number of enquiries could be made concurrently.

What are the outstanding characteristics of the Commission's task and methods? I shall not be falsifying the values, but I may be distorting the over-tones if, in the inherently coarse process of summary, I state them as follows :

(1) Its criteria are empirical not idealogical.

(2) The power of probing is complete, and explanation and defence are unrestricted.

(3) The Commission's reports are intensive and comprehensive but no information is reproduced in them which is not strictly germane to the enquiry.

(4) Public interest is held to be many sided (including the prosperity of the industry itself) and is weighed by a Commission of widely varied interests and experience.

Dame Alix Kilroy, D.B.E.

The Theory of Effective Demand in the 1920's

I.

The main purpose of this paper is to present a short account of a neglected contribution to the theory of effective demand, the work of Mr. A. H. Abbati.[1] It is strange that Mr. Abbati should be so little mentioned to-day[2] since his main work was written in the 1920's and seems to have been well known, at the time, to economists of the rank of Keynes, Robertson and Gregory.[3]

The interesting feature of Abbati's contribution was his approach to the problem of unemployment in terms of "income analysis." He saw that the level of output was determined by the level of effective demand and that effective demand consisted of the sum of expenditures covering private consumption and investment, government expenditure and the foreign balance. Unemployment would appear, he thought, whenever the sum of the component expenditures was insufficient to purchase the available full employment output and this was

[1] A. H. Abbati: *The Unclaimed Wealth*, (London, G. Allen and Unwin, Ltd., 1924, Introduction by J. A. Hobson), and *The Final Buyer*, (London, P. S. King and Son, Ltd.), 1928.

See also the bulletins of the Unclaimed Wealth Utilisation Committee published under the titles:

The Economic Lessons of 1929-31, (Introduction by Professor T. E. Gregory),

The Search for Confidence in 1932, (Introduction by Sir Basil Blackett),

Economic Readjustment in 1933, all published by P. S. King and Son Ltd.

I am indebted to Professor J. W. Scott, Emeritus Professor of Philosophy in the University College of South Wales and Monmouthshire, who drew my attention to the merit of Mr. Abbati's work.

[2] As far as I can discover he is mentioned only in footnotes in Keynes; *A Treatise on Money*, Vol. I, p. 172, Harrod; *The Life of John Maynard Keynes*, p. 410, M. Curtis and H. Townshend; *Modern Money*, (London, G. Harrop, Ltd.), 1937, p. 78 and C. C. Brown; *Liquidity and Instability*, (Columbia University Press), 1940, p. 64. In the last two works the term "Final-buying" is adopted and acknowledged but no explicit reference is made to other parts of Abbati's work.

[3] Cf. Robertson's review of the *Economic Lessons of* 1929-31 in the *Economic Journal*, 1932, pp. 612-14, and Gregory's introduction to that work.

constantly threatened by the activity of saving, which destroyed effective demand unless it was neutralised, directly or indirectly, by effective demand created in the various non-consumption sectors. His analysis included an explicit partial relationship between the level of investment and aggregate demand, which enabled him to demonstrate the inability of the banking system to operate as a mechanism equilibrating aggregate decisions concerning saving and investment. Mr. Abbati's theory therefore represents a link between Robertson's *Banking Policy and the Price Level* and Keynes' *General Theory of Employment.*[1]

Progress in the logic of economic theory has been so great in the past 25 years that an examination of Mr. Abbati's work can hardly be justified as a search for neglected and possibly fruitful ideas. This paper is offered, therefore, simply to those who may be interested in the forgotten work of one whom Mr. Harrod has called an "interesting pioneer."

II.

Mr. Abbati analysed the problem of unemployment in terms of the interaction of aggregate demand and supply. For *aggregate effective demand* he used the term *velocity of final-buying* [2] and for *aggregate supply* the term *velocity of production. Final-buying* denotes the composite activities of producers, consumers, the foreign trade sector (net) and the government (all final buyers) in purchasing productive and non-productive goods and services.[3]

[1]Abbati's affinity with Keynes is illustrated by their common criticism of Hobson's theory of unemployment, *viz.*, that the trouble is not excessive savings which get invested but excessive savings which do ***not*** get invested. (Cf. *General Theory*, p. 367 and *Final Buyer*, pp. 8-10). I have argued elsewhere in this Journal that this is a misunderstanding of Hobson's theory. I am now convinced that the later formulations of Hobson's theory must have been influenced by Abbati's work. Hobson contributed an introduction to Abbati's *Unclaimed Wealth*.

[2]For brevity the discussion is concerned mainly with his second book which was, on the whole, the more rigorous and lucid work. The term *effective demand*, used prolifically in *The Unclaimed Wealth* was altered in the later book to *final-buying* with no change of meaning.

[3]See *The Final Buyer*, pp. 190-1. "Velocity" is defined as "A term for the time-rate of production, final-buying, importation and exportation, of goods and services, irrespective of their money value, for the purpose of making comparisons between quantities being produced [etc.] in a given time." *Final Buyer*, p. 194.

His object was, therefore, to examine the causes of variations in the velocity of final-buying which caused, at different times, inflation and unemployment "especially the causes of an inadequate velocity of final-buying and the checks thus administered to the velocity of production." [1] His analysis was essentially short-term in character, supply conditions being given in the short-period sense.

> An inquiry into the question of adjustment or maladjustment between the velocity of final-buying and the velocity of production does not involve an inquiry into productive possibilities, nor yet into the extent of ready productive capacity at any time . . . [2] We are not seeking to estimate either maximum productive possibilities or maximum ready productive capacity. What we want to know exactly is why ready productive capacity, such as it is at any time, is not always fully engaged.[3]

He clearly believed that inadequate final-buying and unemployment were the normal state of affairs in industry and the real problem to attack.[4]

Mr. Abbati rejected the suggestion of the Major Douglas school that shortage of effective demand might be traced to a failure of the productive process to "distribute enough money to final buyers for them to buy the product at prices which cover costs plus profits."[5] He regarded it as axiomatic that enough purchasing power was distributed to buy the product, *i.e.*, that the sum of costs of production constituted also the sum of factor incomes, and that the failure of effective demand arose because those who had the power to buy did not necessarily want to buy.[6] He therefore put forward two reasons to explain the usual deficiency of demand below the full employment level.

[1] *Final Buyer*, p. 6.

[2] *Final Buyer*, p. 6. *Ready productive capacity* was defined as : "The aggregate normal productive capacity of existing producers, distributors and workers operating upon available land, existing equipment and stocks of goods, or as much of them as they can, with normal efficiency. (*Op. cit.*, p. 193).

[3] *Op. cit.*, p. 44.

[4] *Final Buyer*, p. 7 and p. 106.

[5] *Op. cit.*, p. 7.

[6] See *Unclaimed Wealth*, pp. 33 and 112-14, *Final Buyer*, pp. 7-8 and 45.

These were, first, the unequal distribution of income which "limits the income of a vast number of people in a manner that is by no means equitable in relation to their productive output," and, second, the fact that "in a world where the devil inexorably takes the hindermost, all wise individuals and corporations endeavour to "save" or convert part of their incomes into reserve funds or capital in some form, regardless of whether society as a whole is able and willing to utilise such "savings." This practice . . . can decrease the velocity of final-buying enough to cause trade depression and unemployment, and commonly does so to a varying extent."[1]

The first reason probably represented an attempt to compress into one sentence two concepts arising from his earlier book ; the *positive* concept of differing savings-income ratios in the various income groups [2] and the *normative* concept that since the given distribution of income resulted in unemployment (Unclaimed Wealth), because it led to excessive saving, the factors of production could be regarded as having been deprived by the monopolists of part of their legitimate consumers' and producers' surplus.[3] His two reasons therefore turn out to be the single one of the effects of saving on effective demand,[4] the distribution of income being an explanation of the existence of excessive saving.

[1] *Final Buyer*, pp. 47-48.

[2] "The poorer working-classes are forced to *utilise* all, or nearly all, their continuous purchasing power or income ; for it is so small that they can hardly do with less commodities and services than it enables them to buy. Consequently, any variations in the continuous purchasing power or income received by the great mass of people causes almost like variations in the extent to which it is *utilised*. Rich people, however, often receive more continuous purchasing power or income than they are obliged to *utilise*. Such people are in a position to choose between *spending* it on commodities and services for final consumption or deferred utilisation [*i.e.* durable goods], or not *spending* it at all; and, at any rate, they may wish to '*save*' some of it."
Unclaimed Wealth, pp. 114-5.

[3] Wisely, I believe, he omitted explicit reference to this concept in his second book. The idea may have been a modification of Hobson's "unproductive surplus."

[4] He also referred separately to the case of generalised speculation or the "buyers' strike"—but this is only a particular case of an increased desire to save (and hoard).

Saving, he thought, had to be considered in two senses in order to avoid confusion between the individual and the social effects, which were not necessarily identical. The two aspects of saving were as follows :

(i) "The *passive* part of doing without consumable goods or certain kinds of non-productive equipment."
Passive saving was further analysed into "abstinence," *i.e.*, voluntary abstention from consumption and forced saving which he defined as "automatic frugality." [1]

(ii) "The *active* part of producing commodity capital [producers' and consumers' equipment and stocks of goods] or ordering it to be produced."[2]

This was a distinction of great importance, since it shows that he understood that the initiative in capital formation came from the producer installing the new equipment and not from the individual saver.

> It is, therefore, always the extent of final-buying of commodity capital that, within the limits of ready productive capacity, determines the quantity and nature of commodity capital produced.[3]

True the final buyer of equipment would need finance, but this could be provided from cash balances or from new bank credit (if necessary at the cost of imposing forced savings) if private savings were not forthcoming. The clarity of his thought seems well indicated by the following statement.

> In the modern economic system the active part of producing commodity capital or ordering it to be produced is not dependent upon abstinence ; *for neither abstinence nor automatic frugality is required at a time when ready productive capacity is not fully engaged*, and failing enough abstinence at a time when ready productive capacity *is* fully engaged, automatic frugality is imposed.[4]

[1] At this point he acknowledged Robertson's more detailed analysis in *Banking Policy and the Price Level.*

[2] *Final Buyer*, pp. 49-50 (my italics).

[3] *Op. cit.*, p. 51.

[4] *Op. cit.*, pp. 60-1 (my italics in the first case).

Abbati saw that he had to meet the objection that

> all money income made available by abstinence is, except in the negligible cases of money hoarded away, and except when it is borrowed for the final-buying of consumable goods, either directly forced, or automatically drawn, into use by those undertaking the active part of producing commodity capital or ordering it to be produced; and that, at all events, unless the money is hoarded away, the velocity of final-buying is not decreased. Let us meet this objection.
>
> The circuit flow of credit money is roughly as follows: Bankers create credit money by making loans and investments. The business men to whom the money is advanced disburse it for wages, rent, interest, materials and personal expenses; and taxation thereon is disbursed in a similar manner by governments. The recipients of the money then use it as final buyers of the goods produced by the activities of the business men, who may then either repay the bankers and thus destroy the credit money, or continue to circulate it by using it to finance production as before. *The point is that certain kinds of "saving" withdraw credit money from circulation in industry before it has been returned to the business men who first put it out, and the injection of new credit money into circulation in other ways is not always sufficient to neutralise such withdrawals.*[1]

This was a promising approach but left certain matters ambiguous. But Abbati proceeded to elaborate the argument with greater generality.

Money savings, he maintained, could be disposed of in various ways.

(i) "Productive equipment and certain kinds of non-productive equipment may be bought,"

(ii) "stocks of goods may be increased,"

(iii) "stock exchange securities may be bought,"

(iv) "the money may be held on deposit."[2]

[1] *Final Buyer*, p. 52. (My italics).

[2] *Op. cit.*, p. 52.

The first two possibilities do not involve any reduction in the velocity of final-buying as long as the "money income made available by abstinence is used without delay, directly or indirectly."[1]

The third possibility need not involve a reduction in the velocity of final-buying provided that the

> influx of money into stock exchange circulation is accompanied by a corresponding amount of new issues of securities for financing the final-buying of goods and services by business enterprise or governments . . . And when the volume of new issues is not as great as the influx of additional money, stock exchange prices rise, sometimes drawing in additional credit money, but creating profits in the hands of stock exchange operators who usually become final buyers of additional goods and services. In these circumstances the stock exchange acts as a distributor of unused final-buying power resulting from abstinence . . . [2]

This last remark was an interesting suggestion. Keynes recognised in his *General Theory* the effect of windfall gains and losses on capital account on the propensity to consume [3] but seemed to lose sight of it when discussing his liquidity preference theory of interest. Yet one would have thought that an interest theory placing such emphasis on capital gains and losses should have contemplated explicitly these repercussions on the level of spending which could, to some extent, compensate for interest-rate inelasticity of the investment demand schedule.

But it was equally important to consider the case where the speculators are content to exchange securities for cash to be

[1] *Op. cit.* He notes that

> "whenever distributors or others reduce their stocks of goods, either to repay loans or to increase their cash in hand and bank balances, or simply because they consider themselves over-stocked" the effect is to reduce "the quantity of money paid out for wages, materials, etc., which decreases the velocity of final-buying and causes a further decrease in the velocity of production. A general trade depression may thus be caused, and will last until the velocity of production has been reduced enough below the velocity of final-buying to cause a more or less appreciable decrease in stocks of goods." (*Op. cit.*, p. 53).

[2] *Op. cit.*, pp. 53-4.

[3] *General Theory*, pp. 92-3 and 319.

held idle. Mr. Abbati dealt with this possibility under his fourth heading. So far he had argued the case against himself, though the various possibilities would have been appropriate for periods of confidence, which seems to have been in his mind. His fourth case explains the emergence of the gap in the circuit flow of money.

> Money income that is not used for final-buying (goods and services), and money capital released by industry and trade, *do not reach the stock exchange unless the prospects of ordinary shares are satisfactory or the prices of high-grade bonds and preferred shares sufficiently low.* But the prospects of ordinary shares are not likely to be good at a time when the velocity of final-buying is being decreased by abstinence or otherwise, and the prices of high-grade bonds and preferred shares are not usually low during a period when money is being released by industry and trade. Nor yet do stock exchange operators or others selling securities—either at a profit or at a loss—*necessarily* cause any of the money so realised to be used, directly or indirectly, either for final-buying (goods and services) or for financing industry and trade ; for they may neither wish to spend the money nor be able to find safe and profitable employment for it in industry and trade.[1]

It is a pity that Abbati expounded this critical section of his argument with such brevity. We may surmise that he had no sophisticated interest rate theory in his mind but was putting forward what he regarded as valid empirical generalisations. One or two ambiguities require comment.

First, the reader will notice that Abbati *either* had slipped into the analysis of an increased desire to save from a previous equilibrium, so that the absolute volume of consumption is lower than before *or* was considering the behaviour of people who continue to save in a period of recession. His argument did not cover the case of increased savings resulting from an increase in the level of incomes, unless the pessimistic expectations which cause the desire to hold idle balances are explained exogenously. This omission was perhaps not serious

[1] *Final Buyer*, pp. 54-5. (My italics).

because a rise in national income would normally denote prosperity [1] and in this case the flow of money through the capital market is unlikely to be broken.

Second, given the background of a falling velocity of final-buying, the argument concerning ordinary shares seems unexceptionable, but that concerning high-grade bonds is open to question. The normal tendency is for the prices of high-grade bonds to rise rather than fall during the course of a depression—at least after the initial crisis period has passed.[2] This suggests a net inflow of money to the market for this type of security. Such a tendency could be explained partly by a shift of portfolio from advances to investments by the commercial banks and partly by private investors shifting from the income uncertainty of equities to the income certainty of good bonds. Since Abbati was well aware of the nature of speculative activity in all markets [3] he might reasonably have argued that money released by industry and trade in depression would be used to purchase high-grade bonds before their prices rose higher rather than waiting until their prices were "sufficiently low." His argument would have lost no force if he had allowed new savings to flow freely into the purchase of existing high-grade bonds provided that he had stipulated that sellers of such securities did not return the money to industry directly or by the purchase of new industrial issues, a point which seems quite consistent with his general argument.

Apart from theoretical refinements Abbati's argument was effective for his purpose since he clearly contemplated a reduction in purchases of industrial shares in periods of reduced final-buying and this meant that money was being lost by saving from the active circulation. But the argument was not finished for he had to show that there was no possibility of the new hoarding of money savings being offset by banking operations.

[1] A decline in the rate of growth of income might perhaps be interpreted as a depression but this could lead to pessimism endogenously.

[2] Cf. Hawtrey ; *Currency and Credit*, 1st Edn. 1919, p. 143, *A Century of Bank Rate*, p. 167.

[3] Cf. *Final Buyer*, pp. 29-30 and p. 47.

> When money income made available by abstinence is held on deposit, the onus of finding safe and profitable employment for it is left upon bankers.[1]

Here he was embarrassing himself needlessly by making the assumption that the new hoarding involved an increase in bank reserves, *i.e.*, an influx of cash to the banks. As a first approximation[2] he might have considered simply a shift from current to deposit accounts, which could have made it impossible for the banks to offset the decreased final-buying except by a heroic and sacrificial [3] shift of their portfolio from investments to advances.[4] But Abbati effectively ruled out such a possibility, and saved his argument, by his next and crucial postulate. Even if there is an increase in the cash basis the banks will not be able to increase their loans to industry, or facilitate new issues indirectly by loans to the stock market, etc., because

> *the effective demand for loans for financing new productive equipment and stocks of goods tends to vary as the extent of final-buying by the recipients of money income and the owners of money capital.*[5]

He recognised the possibility of extending the effective demand for loans by interest rate reductions but after some discussion decided that the effects would only be of minor significance.[6] Therefore the banks would necessarily fail in their crucial role of offsetting the omitted final-buying of the time depositors.

[1] *Final Buying*, p. 56.

[2] His assumption might, however, be the correct one for the later stages of depression if the currency circulation was reduced along the lines of Professor Hawtrey's theory.

[3] In terms of the probable capital losses which this would involve.

[4] The advantages of which might be neutralised by the effects of the implied rise of the long-term interest rate.

[5] *Op. cit.*, p. 14. (My italics). This fundamental assumption is discussed and defended in his book before he presents his theory of saving. See *Final Buyer*, Chapter 3, also *Unclaimed Wealth*, pp. 81, 84 and 85. "Both renewals and new ventures [of capital] are entirely dependent upon the *effective demand* of the public for the commodities and services to be supplied by such renewals or new ventures." (*Op. cit.*, p. 85).

[6] Partly because gold standard conditions would limit the movement of the interest rate, partly because the effects of rate movements would be small anyway. See *Final Buyer*, pp. 39-40, *Unclaimed Wealth*, pp. 85-6.

This led him to formulate a significant theorem.

> When money income made available by abstinence is held on deposit—the final-buying of abstainers being to this extent reduced below their incomes—both the velocity of production is reduced in relation to ready productive capacity and the quantity of money in relation to the potential supply,[1] *unless the absent final-buying of the abstainers is fully neutralised by the sum of the following kinds of irregular final-buying* : (1) final-buying resulting from gold mining; (2) final-buying by countries abroad from the home country;[2] (3) final-buying by governments; and (4) final-buying resulting from the activities of producers and distributors.[3]

A page or two later we get the other side of the picture

> . . . should the sum of the different kinds of irregular final-buying be greater than any absent final-buying of abstainers, and any decreased final-buying resulting from liquidation, the velocities of final-buying and production will increase *within the limits of ready productive capacity* . . .[4]

An obvious inference is that if abstinence is exactly neutralised by irregular final-buying the velocities of final-buying and production will remain constant. There was therefore in his theory an implicit concept of equilibrium with less than full employment. But equilibrium is perhaps an alien concept in Abbati's system since equality of saving and offsets would be subject to constant disturbance from both sides. Although

[1]Abbati wanted to stress the idea that a reduction in effective demand would reduce the demand for bank loans and therefore the supply of bank money. He realised that this effect might be obscured, *i.e.* total deposits would not decline, if the banks maintained their cash ratio by increasing their holdings of investments. (Cf. *Final Buyer*, p. 59).

[2]He probably meant here an increase in the foreign balance. See his Chapter 7 of *Final Buyer*. But he did not completely understand the application of his theory to foreign trade, though income effects are recognised in his discussions of intergovernment debts and reparations. See *e.g.*, *Final Buyer*, p. 96 for an illuminating footnote.

[3]*Op. cit.*, p. 59 (my italics). His concept of irregular final-buying is discussed below; it can be taken as representing exogenous expenditure.

[4]*Op. cit.*, p. 62 (my italics).

he worked on the assumption that a part of the total income was saved he seems to have assumed the proportion to be subject to irregular changes. His lack of precision on this point was a methodological defect, though the assumption itself was quite admissible, since, theoretically, there is always the possibility of explaining the variations in terms of a more complicated model.[1] For practical purposes he had achieved an explanation of variations in output around "the general low level of the mean productive output as compared with ready—not to say potential—productive capacity." [2] He did not attempt a precise explanation of the extent to which output would change following a given disturbance. Strong hints were provided in his earlier book. Observing that the full effects of abstinence are often averted by the dissipation of part of the abstinence in charity and doles to the workers he went on.

> If this dissipation of abstinence were rigorously eliminated together with the employment which it maintains, more workers would be thrown out of work ; and, with the rigorous elimination of what they were consuming, yet a further batch would become unemployed ; and so on, until production was reduced to a point at . which any sort of voluntary abstinence became impossible.[3]

A little later he refers to the effects of wasted saving.

> Not only does it cancel its own, or equivalent, value; but *it prevents the further production of several times its value by causing enforced idleness upon producers.*[4]

In his later book there were again hints of the nature of the multiplier process but the arithmetic was confused.[5]

[1] These changes may have been partly endogenous, *e.g.*, a delay in getting accustomed to a higher income (cf. *Final Buyer*, pp. 43-4), or a speculative response to price changes. (*Op. cit.*, p. 47).

[2] *Op. cit.*, p. 106.

[3] *Unclaimed Wealth*, p. 151.

[4] *Op. cit.*, p. 158. (Italics in original).

[5] "Let us take another imaginary case. Supposing everybody put one-half their total monthly incomes on deposit in the banks each month instead of using the money for buying, what effect would this have upon industry and trade ? It is here urged that very soon all trade would come to a standstill, after shrinking in geometrical progression by upwards of 20% each month . . . " (*Final Buyer*, p. 121. See also pp. 119-20).

Strictly speaking his irregular savings-income ratio would preclude a precise and simple formulation of the multiplier anyway.[1]

Abbati understood that upward and downward changes in final-buying and production might involve price changes.

> . . . When the velocity of final-buying is increased, neither a temporary nor a permanent rise in the price-level is necessarily involved. For an increase in the velocity of final-buying may, in certain market conditions, merely prevent a temporary fall instead of causing a temporary rise in the price-level; whilst a permanent rise in the price-level is not involved except on the rare occasions when the ready productive capacity of the country concerned is fully engaged, or unless the increased home final-buying causes imports to increase in relation to exports, whereby the foreign exchange value of the currency falls. Further, an increase in the velocity of final-buying at a time when ready productive capacity is not fully engaged . . . causes the velocity of production to increase, and the larger turnover may eventually enable producers and distributors to sell at lower prices . . . [2]

With regard to a reduction in final-buying he admitted some decline of the price-level as a result of stock liquidation and the downward pressure on profits and wages. But he emphasised the resistance of both business men and workers to such reductions, arguing that both prefer to restrict output rather than to lower prices as final-buying is reduced.[3] He suggested that this resistance to prices was beneficial—"without it falling prices might, on occasions, reach the proportions of catastrophe." [4]

Having set out the main principles of his theory of effective demand Mr. Abbati went on to discuss the nature of the

[1] Once the secondary repercussions of changes in income on expectations, induced investment, price changes, etc. are taken into account the multiplier itself becomes a concept of doubtful validity. But this does not excuse ambiguity about the consumption-income relationship which becomes an essential part of a wider model.

[2] *Final Buyer*, pp. 97-8.

[3] *Op. cit.*, p. 67.

[4] *Op. cit.*, p. 68.

"irregular" final-buying arising from gold-mining, producers, foreign trade and the government. His purpose apparently was to demonstrate in each case that the irregular final-buying would not automatically offset the abstinence of consumers. This was perhaps unnecessary ; the data on unemployment "proved" his point in terms of his definitions. His discussion was, strictly speaking, a demonstration of the partly exogenous nature of the variables he considered. Thus, in the case of gold-mining, he argued,

> From time to time new mines or new methods of mining are discovered which render it possible for a unit of labour to produce more gold than previously, and, consequently, on such occasions there is a more or less pronounced increase in gold-mining equipment boughtand set up, labour employed, and money distributed in the above-mentioned ways to final buyers, by the gold-mining industry. Such discoveries, and the more or less pronounced increases in final-buying that they entail, may occur any time, and, in fact, in the past they have been essentially irregular occurrences.[1]

The theme of his chapter on foreign trade was that

> variations in the home country's foreign trade balance must be irregular, and that the velocity of final-buying by countries abroad from the home country must decrease and aggravate, as often as it increases and neutralizes, any inadequate home velocity of final-buying.[2]

The discussion of irregular final-buying (of equipment and stocks) by producers and distributors was unsatisfactory. Since he had already linked their final-buying explicitly to the level of effective demand, what was needed was a clear distinction between autonomous and induced elements of investment which he did not supply. His argument was that investment, whilst related to the level of effective demand, would fluctuate as a result of imperfections of producers' knowledge and over-response to expected or actual movements

[1] *Op. cit.*, p. 63.
[2] *Op. cit.*, p. 65.

of demand in competitive markets.[1] It might seem inappropriate to consider such fluctuations as irregular in an exogenous sense, but Abbati's view was doubtless that producers' plans would respond to a large number of really exogenous factors.[2]

Having concluded that variations in irregular final-buying would not automatically stabilise the level of final-buying, he was led to advocate a deliberate attempt by the government to stabilise the velocity of final-buying and production.

> "Our inquiry will show," he argued,
> that government final-buying by means of either revenue, loans from the public or bank loans has, hitherto, never been consistently determined by the question of neutralisation of harmful variations in the velocity of (general) final-buying and has increased these variations as often as it has decreased them.[3]

Although, in fact, he gave no rigorous historical study of the budget, etc. in relation to the trade cycle, there can be little doubt that his view was correct. What he did was to state some propositions concerning the influence of taxation, borrowing, etc. on the level of effective demand.

> When money withdrawn from the public by taxation is applied by a government to the reduction of the national debt of the country, the velocity of final-buying is decreased to the extent that the public abstains from final-buying in order to reserve the money for paying the taxes. When the money remains in the hands of the public, a large portion of it is used for final-buying; whilst when it is taken from the public and is all applied [to the repayment of debt] none of it is normally used for final-buying. For . . . the public does not use the repaid money—which is money capital—for increased final-buying of consumable goods, and it is unlikely to use it for increased final-buying of equipment and for increasing stocks of goods—except on the rare occasions when, owing to real or technical

[1] *Op. cit.*, pp. 105-6.

[2] *Op. cit.*, p. 106, as *e.g.*, harvest variations, banking policy, government policy and economic and political conditions abroad.

[3] *Final Buyer*, p. 93.

> monetary shortage, the purchase of the said commodity capital is conditional upon the repayment of loans by the government.[1]

He showed that government expenditure financed by taxation or loans from the public would "usually" increase final-buying and expenditure financed by bank loans would "invariably" increase final-buying. In the first case,

> should the money have remained in the hands of the public, it is unlikely to have all been used for final-buying ; but in the case under consideration, it is either all used for final-buying by the government, or it is paid to people as income and mostly or entirely used for final-buying by them.[2]

In the second case,

> except on the rare occasions when increased bank loans to the government are conditional upon decreased bank loans to the public, the increased final-buying of the government with the additional money is unlikely to be neutralised by decreased final-buying of the public.[3]

His argument that the expansion of output induced by fiscal policy would not necessarily involve price inflation and might even reduce prices has already been quoted.[4]

He concluded :

> When the velocity of final-buying of the public is excessive in relation to the velocity of production [and to the balance of payments],[5] of the country in question, the velocity of final-buying should be decreased to the required extent by taxation or by government economies, and by the application of the money to reduction of government debts. Reduction of government debts should, in fact, take place at times when there is a tendency for the price-level to rise

[1] *Op. cit.*, pp. 93-4.

[2] *Op. cit.*, p. 96. See also *Unclaimed Wealth*, pp. 163-4.

[3] *Op. cit.*, p. 98.

[4] *Op. cit.*, pp. 97-8 quoted above p. 74.

[5] Presumably. He used the words "to the balance of imports and exports of gold, and to the balance of inward and outward transfers of money income and capital." Cf. pp. 98-100.

> as the result of either any kind of impediment to production, or any excessive increase in the velocity of final-buying.[1]
>
> . . . On the other hand, increased government final-buying by means of government borrowing should take place at times when the velocity of final-buying is insufficient in relation to the velocity of production [and to the balance of payments] [2] of the country concerned ; and the money should be spent, for preference, on public works of some kind.[3]

At a later stage he mentioned the problems of compromise which would be involved in the stabilisation policy he had advocated. Government spending could not prevent localised unemployment in trades which tried to raise wages and profits by restriction. Such behaviour was condemned :

> For, should the community, in order to obviate currency depreciation, have to resist attempts made to exact larger profits or higher wages, and apply economic pressure on the delinquent parties by withholding orders from them, this would result in reduced production and in unemployment ; whilst, on the other hand, any policy permitting higher prices and higher wages to be exacted regardless of the effect on the price level would be fatal. Thus proper regulation of the velocity of final-buying does not insure the full and continuous output of the economic machine without, either the voluntary co-operation of producers, distributors and workers, or some means of

[1] *Op. cit.*, p. 102. He thought that "whether government debts are reduced by means of increased taxation or by means of reduced government expenditure makes little difference in the long run to the total volume of trade . . . but it is important for the welfare of the State that the required decrease in the velocity of final-buying should be effected at the point where final-buying, either by the government or by the public, is least necessary or desirable." (*Op. cit.*, p. 102).

[2] See note (5) above. (p. 77).

[3] *Op. cit.*, pp. 102-3. See also p. 180. "What is required is that the velocity of government final-buying should be varied in a manner complementary to the velocity of final-buying of the public, the idea being to stablise industry, and as far as possible the price-level . . . "

obtaining their co-operation other than putting them out of business until they come to their senses.[1]

The practical measures which Abbati proposed were presented very briefly. They included the availability of government employment at a minimum wage to be determined by reference to the rate of change of retailers' stocks ; government employment for national development by means of direct employment and by contract ; mobility of labour with refusal to guarantee employment to non-co-operating trades ; and state ownership of monopolies by way of purchase of ordinary shares in the appropriate concerns.[2] The brevity of his discussion was probably explained by his belief that it was first essential to get the theoretical basis accepted.

One point of general criticism might be raised against him. The irregularity which he stressed as being existent in all components of effective demand would make stabilisation by the government very difficult since it would be a hazardous task to predict the required extent of public expenditure or tax remission. This would not apply where the object was merely to raise employment and output, on the average, above the "general low level." To go beyond this would involve a fairly rapid automatic response to changing conditions, a solution which is, perhaps, hinted at in the selection of retailers' stocks as the indicator for needed variations in the minimum guaranteed wage.

III.

The problem which Abbati considered was also discussed by several academic economists in the 1920's.[3] The dominant contribution was undoubtedly contained in Robertson's *Banking Policy and the Price Level* (1926) a work which influenced such disparate economists as Pigou and Keynes.[4] But the first statement of the problem seems to have come from Lavington.

[1]*Op. cit.*, pp. 180-1.

[2]Cf. *Unclaimed Wealth*, pp. 184 ff., *Final Buyer*, pp. 182 ff.

[3]The discussion in this final section is not intended to be exhaustive. In particular it is confined to English opinion.

[4]Cf. Pigou ; *Industrial Fluctuations* (1927), pp. 130-1. Keynes ; *Treatise*, Vol. I, pp. 170-1.

In view of the statement by Keynes that concern with the "great puzzle of Effective Demand . . . vanished from economic literature" after Malthus and "could only live on furtively, below the surface, in the underworlds of Karl Marx, Silvio Gesell or Major Douglas," [1] it is interesting to notice that Lavington, essentially a "classical" economist,[2] conducted his analysis of the trade cycle in terms of variations of "effective purchasing power." This term seems to have been used as a synonym for "effective demand" and was occasionally replaced by the latter expression.[3]

For Lavington the trade cycle was a matter of processes of impulses and their propagation, which, in a rational world, would lead to finite changes in the level of output, but which, in the capitalist world under the influence of errors of forecast induced by confidence changes, became cumulative expansions and contractions of activity.[4] Of special interest is his discussion of investment and saving in boom and slump.

[1] *General Theory*, p. 32.

[2] Lavington stated in the preface to his *Trade Cycle* (1922) that his work was not original being "based mainly on the views of a comparatively small group of economists . . . Most of the leading ideas have been drawn from the writings of Dr. Marshall, Professor Pigou, Mr. D. H. Robertson and [W. C. Mitchell] . . . " (*op. cit.*, p. 7).

[3] "The term money is a vague one. Let us substitute for it the term *effective purchasing power*. The substitution enables us to deal in one phrase with changes in the *power to buy*, *i.e.*, with changes in the volume of all the means of purchase at the disposal of the community, and with changes in the *will to buy*, *i.e.*, with changes in the rapidity of circulation of these means of purchase, in the activity with which the community employs the means of purchase at its disposal." (*Op. cit.*, p. 41).

"The increasing output of each producing group, by expanding the purchasing power of that group, increases the *power* to buy of the whole community and therefore the effective demand for goods in general." (*Op. cit.*, p. 57).

It is noteworthy that Professor Hawtrey's theory of the cycle has been conducted from its outset in terms of variations in "effective demand" or "total demand." *E.g.*, "We have now shown that the variations in effective demand, which are the real substance of the trade cycle, must be traced to movements in bank credit." (*Trade and Credit*, 1927, p. 94).

For further references and a comment on Keynes' failure to acknowledge Hawtrey on this point, see A. W. Marget, *The Theory of Prices*, Vol. II, pp. 120-1 and p. 686.

[4] *Op. cit.*, passim, but especially pp. 58-60.

As far as the boom period of the cycle was concerned Lavington was thoroughly "classical."

> . . . although there is a recondite sense in which there can be an "excess of savings," there cannot be such an excess in the sense that new supplies of capital are not marketable ; history and common-sense alike show that indefinite quantities of new capital can be absorbed and can be made to yield a return, though possibly a smaller amount than before.[1]

But this is only true of the boom. He went on to argue that the new capital formation of the boom would not be widely spread but would be concentrated in "those industries which are for the time being exceptionally busy and exceptionally profitable." This led him to the hypothesis "that the *actual realised yield* on the new supplies of capital generally, and especially the *actual realised yield* on the new supplies in the particular industries in question, must be lower than before, and very much lower than the extravagant expectations of those who called the new capital equipment into being." He went on : "If the inference were sound, it would seem that the time at which the great bulk of the new capital equipment came into operation would be one in which there ripened a wide recognition of frustrated expectations . . . estimates of prospective profits must inevitably be adjusted to much lower levels." [2]

From this point he traced the end of the boom and the onset of depression in terms of a general reduction in the rate of investment causing a general state of pessimism and reduced effective purchasing power. Under the new conditions

> Investment, therefore, is checked, though saving may proceed at a rate not much less than before. In the typical case, those who save will accumulate idle balances

[1] *Trade Cycle*, p. 71. It is obvious to eclectic students that it may be perfectly sensible to assume that new savings get invested automatically during periods of high confidence, *i.e.*, in booms, but not necessarily in periods of low confidence. Keynesian theory, when dynamised, does not contradict the "classical" view of the boom but confirms it. Compare the references here to Lavington with the *General Theory*, pp. 315-6.

[2] *Op. cit.*, p. 72.

> at their bankers . . . they hoard bank balances transferred to them from the balances of other account holders. As aggregate banking deposits are unaffected by this particular process, bankers have no more to lend and consequently invest no more than before. But as a larger part than usual of their deposits is idle, fewer cheques are drawn for the purchase, either of new securities or of consumable goods, and the volume of currency in active circulation is still further reduced.[1]

In his *English Capital Market* he had given a more detailed version of the paragraph just quoted and went on to say

> The immediate effect is that, in consequence of fewer purchases, of a smaller effective demand for goods, production slows down. A second effect is a general fall in prices, which tends to proceed until the diminished quantity of money in active circulation again controls and sets in motion the whole supply of social resources. It seems clear that this latter compensatory effect must proceed more slowly than the former and that in the interval during which it is proceeding social resources are imperfectly employed. In other words, in spite of the banking system, variations in the interval between saving and investing are, or may be, causes of fluctuation in the employment of capital and labour.[2]

Lavington's argument was superior to Abbati's to the extent that he made it clear that the original change was likely to be purely a shift between active and idle deposits, but it is arguable that Abbati made a more potent contribution to the theory of depression. Lavington's explanation of the ultimate limitation to the downward cumulative process was exceedingly vague,[3] being mainly a statement of faith that the factors causing the downswing would develop conditions at first weakening their impulse and then reversing their direction. Abbati saw that the limit to contraction was to be found in the

[1] *Op. cit.*, p. 83.
[2] *Op. cit.*, p. 70.
[3] *Trade Cycle*, pp. 86-7.

elimination of saving [1] and got the idea of an underemployment equilibrium. Also his relationship between the interest-inelastic demand for loanable funds and aggregate demand suggested that monetary policy would be ineffective to remedy the depression and threw the emphasis on to fiscal policy.[2]

Although Robertson did not work explicitly in terms of "effective demand" his *Banking Policy* considered the problem which Lavington and Abbati had raised.[3] Robertson's contribution was marred by an element of self-contradiction. Although his book was concerned with the problem of monetary policy and the trade cycle and, therefore, with fluctuations in output [4] he chose to assume that variations in effective demand caused by hoarding and dis-hoarding caused variations in the price-level rather than variations in output.[5] As a result he got involved in a complicated distinction between various types of spontaneous and induced saving and dis-saving which emphasised, not the fact that hoarding wasted *production*, but that it wasted "abstinence" or "lacking" power.

> Suppose first that some or all of the public, their incomes not having suffered any change, experience an increased desire to hoard. Under our assumed monetary system this shows itself, not in an increase of the money total of bank-deposits, but in a diminished daily flow of money on to the market. If the bank took no action, the

[1] *Unclaimed Wealth*, p. 151, quoted above. This idea had been available to Lavington in J. A. Hobson's *Industrial System* (1909), (p. 303) where the concept of a falling savings-income ratio as national income declines is explicitly used to explain the end of the downswing.

[2] Lavington does not seem to have contemplated monetary policy for the depression phase, probably because he thought the best way to tackle the general problem was to check the excesses of the boom. For this purpose he advocated restriction on lending by the banking system. (*Trade Cycle*, pp. 108-9, *English Capital Market*, pp. 48-9, 56, 173, 176). But Lavington explained that he was not concerned to make policy statements (*Trade Cycle*, p. 110), and was prepared to sanction public interference even though this might be in the nature of "palliatives."

[3] Abbati in his *Unclaimed Wealth*.

[4] A distinctive and important feature being the attempt to distinguish between "appropriate" and "inappropriate" fluctuations in output.

[5] Cf. *Op. cit.* (1949 reprint by A. M. Kelley, New York), p. xii. and chapter 5 in original edition.

> result would be a fall in the price-level, and an unexpectedly increased consumption on the part of some members of the public, if the New Hoarding is partial, or an unexpectedly maintained consumption on the part of the whole of the public if the New Hoarding is general. By making additional loans of appropriate amount, the bank can prevent these results from occurring.[1]

Mr. Abbati may fairly claim that he showed that hoarding was more likely to tax the public rather than to concede bounties of consumption.[2]

Nevertheless, Robertson gave evidence that he was thinking in terms of output changes. He referred later to the effects of a primary price-fall as inducing new hoarding (and therefore inducing an inappropriate reduction in output) and also reducing the demand for bank advances. He also made the point that the banks might be unable to offset the effects of the hoarding because "there may be *no* rate of money interest in excess of zero which will stimulate an unwilling [borrower.]" [3] His brief comments on the policy implications of his theory were extremely appropriate.

Despite his awkward terminology and apparent preoccupation with price movements Robertson's work proved to be an influential contribution, probably because the general recognition by economists of the strong empirical and part-causal relationship between price and employment fluctuations made it easy for his readers to adapt the argument to policy.[4]

Although Pigou was generous enough to acknowledge Robertson's contribution in his *Industrial Fluctuations* he had, in fact, given an independent statement of the effects of hoarding on the price-level in 1920. In the 1st edition of his

[1] *Op. cit.*, p. 53. The assumed monetary system was that the total money supply consisted of inconvertible issues (deposits) of a single bank.

[2] Cf. *Unclaimed Wealth*, pp. 110-1, 158 and *passim*. *Final Buyer*, pp. 50, 59, 119-21.

[3] *Op. cit.*, p. 81.

[4] On the relationship cf. Keynes; *Monetary Reform*, pp. 32-9, Pigou; *Industrial Fluctuations*, pp. 15, 28, 169-70, Hawtrey; *Trade and Credit*, p. 83.

Economics of Welfare he wrote :

> By accumulating unused purchasing power people have not automatically accumulated also unused savings of real things. What they have done by not spending their money has been to reduce prices in general below what they would otherwise have been, thus making the money of other people worth more goods than it would otherwise have been worth, and thus enabling those other people to buy more goods.[1]

And, in an essay published in 1924, he made the points that "when confidence has broken down, business men's demands for new loans may be not only small, but also highly inelastic . . . " and that the practical impossibility of negative discount rates was a further factor restricting monetary policy.[2]

Keynes acknowledged his obligation to Robertson in his *Treatise on Money* and presented the Robertsonian argument that : "The vital point to appreciate is this. An act of saving by an individual may result either in increased investment or in increased consumption by the individuals who make up the rest of the community." [3] But two pages later he showed the implications of this for employment and output. Falling prices mean losses for entrepreneurs who react by reducing the volume of output. Of particular interest is the suggestion that the contractionary process caused by the hoarding might be checked as a "result of the growing poverty." [4] Output analysis also featured explicitly in his pamphlet (with H. D. Henderson) *Can Lloyd George Do It?* Professor Clay accepted the broad implications of this latter document and summarised the core of the argument.

> Sometimes investment runs ahead of savings, when there is inflation of credit and a boom ; sometimes investment

[1] *Op. cit.*, p. 812. The argument which followed implied that this process accentuates depression. See also Chapter 8 (Part 6), esp. pp. 851-3. Robertson acknowledges the quoted passage as one of the influences on the development of his thought. (*A Study of Industrial Fluctuation*, 1948 reprint, p. xvi).

[2] "Correctives of the Trade Cycle" in *Is Unemployment Inevitable?* (1924), Ed. J. J. Astor and others, pp. 113-4.

[3] *Op. cit.*, vol. I, p. 175.

[4] *Op. cit.*, pp. 177-8.

> lags behind savings, and idle deposits accumulate in the banks and there is a depression. To provide, by Government borrowing for public works, an outlet for or stimulus to the use of these savings, is not inflation ; inflation begins only when labour is fully employed and the demand for capital is pushed beyond the point at which it can be satisfied out of savings.[1]

In the light of the preceding discussion it is evident that English academic economists in the 1920's were by no means ignorant of the implications of changes in effective demand on the level of output and employment.[2] In what sense, therefore, had Mr. Abbati's contribution anything to offer them ?

In the first place, there was the direct emphasis on output rather than prices as the relevant variable. The references to output by Robertson and Keynes quoted above were almost *obiter dicta* in works primarily concerned with price changes.[3] No-one could have doubted Abbati's intense concern with changes in output. Secondly, there was his concern with continuing excessive unemployment. One might admit that Abbati neglected the structural element in British unemployment in the 1920's ; but he was manifestly concerned with *unemployment*. With an average unemployment rate for the decade of about 11% it seems sensible to have been preoccupied with deficiency of effective demand rather than with controlling booms. Finally there was his clear understanding of the need for fiscal policy to correct both unemployment and inflation. Lord Beveridge has recorded that the "Treasury View" was attacked in the late '20's "by a formidable variety

[1]Clay ; *The Post-War Unemployment Problem*, 1929, p. 130.

[2]If Hawtrey is regarded as an academic this conclusion is reinforced. Consider the following by no means untypical remark: "The fact that increased demand expresses itself in the first instance in the volume of sales before affecting prices is of outstanding importance in the theory of industrial fluctuations." (*Trade and Credit*, p. 160). See also his criticism of Robertson, *Economic Journal*, 1926, p. 424.

[3]Keynes himself admitted this. Cf. *General Theory*, pp. vi-vii. There was little reference by Robertson to deflationary contractions of output. It seems that, like Lavington, he believed that the best way to fight the slump was to check the inflationary boom which caused it. Cf. Wilson ; "Professor Robertson on Effective Demand and the Trade Cycle," *Economic Journal*, September, 1953, pp. 566-7.

of economic authorities." [1] But the idea still persisted, in some cases, that public expenditure was a "temporary" or "emergency" matter and not something inherently required by the logic of differing tastes for investment and saving.[2]

It may be doubted if, at this time, academic economists had fully accepted the idea of the permanent use of fiscal policy for the purpose of stabilising the aggregate level of demand and output. At least no statement of such a view seems available. It is, perhaps, significant that Keynes having mentioned in his *Treatise* the duty of the Government to promote a programme of domestic investment when monetary policy proved ineffective [3] went on to discuss optimistically the control of the 1930 slump in terms of monetary policy.[4]

If these points are accepted, Abbati's theory represented a positive contribution to the debate of the 1920's. Despite its brevity [5] it came nearer to providing a theory of output than any of the academic works of the period. It is difficult to avoid the feeling that the academic theories would have gained in coherence had they been reformulated in terms of Abbati's concepts and framework.

No attempt will be made to suggest why Abbati's work was neglected. But the objection must be anticipated that his neglect is to be explained by his failure to present his theory in a perspicuous manner. I do not believe that this can have been the case. Whilst his books contained occasional errors and defects of exposition, the more important cases of which have been discussed above, it does not seem likely that

[1] *Full Employment in a Free Society*, p. 260. Including, it should be noticed, Professor Pigou, whose authority Keynes felt it useful to invoke to support this essentially "revolutionary" doctrine in his pamphlet *Can Lloyd George Do It?* (p. 39).

[2] Cf. Clay, *op. cit.*, p. 136 and Pigou, *Macmillan Committee Evidence*, Vol. II, 6658 and p. 93 note 6. Contrast Robertson's admirable approach *Evidence*, Vol. I, p. 323, note 13 and 4904 ff. esp. 4916.

[3] *Op. cit.*, p. 376.

[4] *Op. cit.*, pp. 377-87, esp. pp. 386-7.

[5] Abbati's argument was worked out in his spare time, after office hours. He had only a very limited acquaintance with the literature in existence on cyclical fluctuations, hence the sketchy treatment of such matters as the nature and causes of fluctuations in investment.

these would have caused much trouble for the professional economist. The essence of his argument seems to have been presented with great lucidity.[1] It is worth noting that in America Professors J. M. Clark and H. L. Reed gave his earlier book sympathetic notices and seem to have got hold of his main argument.[2] In England Professors Robertson and Gregory commended his work, though they did not accept his argument in full.[3] Keynes on the other hand thought that "Mr. Abbati has probably failed to make his thought fully intelligible to those who have not already found the same clue themselves. But the essence of the distinction between saving and investment is to be found in his Chapter V."[4] It is surely piquant that Keynes, having damned Abbati with faint praise, should have gone on, with the assistance of "a remarkable younger generation in Cambridge,"[5] to immortalise the very concepts of aggregate effective demand, unemployed resources, savings and offsets-to-savings whose importance Abbati had propounded.[6]

It is understandable that Mr. Abbati should feel aggrieved at the neglect of his contribution by academic opinion now that many of the ideas he developed are regarded as accepted doctrine. Of course, the history of ideas is full of examples of those who through ill luck of conjuncture have failed to secure the acceptance of their message ; the list of neglected

[1]Curtis and Townshend include his *Final Buyer* in a short list of books all of which they found "stimulating and clarifying to thought." (*Op. cit., p.* 314).

[2]J. M. Clark in *The Journal of Political Economy*, 1925, H. L. Reed in *The American Economic Review*, 1925.

[3]Cf. the references cited in section I above. Some of Robertson's criticism was quite valid. Had Abbati responded with a restatement of his theory he might be better known to-day.

[4]*Treatise*, Vol. I, p. 172. It is regrettable that the *Economic Journal* did not publish a review of Abbati's *Final Buyer*. A work which Keynes credited with reaching "some substantially similar results" as Robertson's *Banking Policy* was worth reviewing.

[5]Cf. E. A. G. Robinson, *Economic Journal*, 1947, p. 39.

[6]No suggestion is intended that Keynes was consciously indebted to Abbati.

pioneers in the field of effective demand goes back two centuries or more. Nevertheless, it seems unreasonable that one who made a distinguished contribution to the debate which preceded the ultimate "revolution" in thought should stand in such obscurity. Mr. Abbati at least has the satisfaction of seeing his ideas applied as axioms of public policy.

D. J. Coppock

University of Manchester.

British Exports and the Scale of Production

The purpose of this article is to discuss some of the problems confronting British manufacturers, particularly when competing in export markets, as a result of the small British home market.[1] The study is confined to a small group of engineering industries producing refrigerating machinery, radio apparatus, machine tools and fractional horsepower electric motors.[2] There is in each of these industries a branch where economies of scale are important and where a small home demand may be a serious disadvantage.

The article falls into two main sections. Section I discusses the general relationship between economies of scale and the size of the home market. Section II considers the development of the selected industries in the light of this general argument and Section III summarises the main conclusions.

I.

In this article our main interest will be in those economies of scale which arise in connection with production rather than distribution. Our argument will be that under certain conditions it may be impossible for an optimum scale of production to be reached in a country. If this is so prices cannot be competitive and export marketing techniques cannot compensate for this. If the home market allows an optimum scale of production to be reached export marketing techniques may be the main factor in deciding whether or not an export trade is developed. Where the export trade is essential to the attainment of the optimum scale of production such marketing techniques are even more important.

It is only necessary to indicate briefly some of the more important sources of economies in production. A larger scale of production may allow increased specialisation on the part

[1]For the most part we shall be concerned with the size of the British home market compared with that of the United States.

[2]Motors of one horsepower and less.

of labour and permit the use of "indivisible" machinery. Very often a number of different models are made in one factory and a switch from one to another necessitates the re-setting of many of the machines. Important savings may be made by putting models through the factory in "long runs," since this will reduce the time taken in setting up the machines relatively to the operating time.

Where economies of scale are important a country will be at a competitive disadvantage if it has a scale of production smaller than that found elsewhere.[1] The small home market is a handicap to manufacturers in so far as it may be one factor contributing to this smaller scale of production. It may be possible for this handicap to be overcome by the adoption of one of three policies, or some combination of the three. The three policies are :—

(1) Increased concentration of production,
(2) Increased specialisation on the part of the firms in the industry,
(3) The development of an export market.

Let us now examine each of these policies in turn.

(1) Why, if there are marked economies of scale, does not the most favourably placed firm in an industry expand and by reducing its costs and prices capture the markets of its competitors ? The expansion required to reach the optimum size [2] may be very great, involving costs beyond the resources of any of the firms in the industry.[3] Even firms with the necessary resources may hesitate to expand. Expansion by a single firm will give it an advantage over its competitors ; expansion by

[1]We assume here that the country has no compensating advantage, such as lower labour costs or easier access to raw materials or to the markets for the finished product.

[2]In theory the optimum size is reached when average costs are a minimum. For our purpose it does not matter whether this optimum size is reached. It is sufficient that the scale of production in a country should be sufficient to bring prices down to the level prevailing in competing countries. It is to such a scale of production that the term optimum applies in this article.

[3]The methods of production may be completely different at two scales. In this case it may be impossible for a firm to expand gradually to the optimum size. Moreover, gradual expansion is no short term remedy in the case where a larger scale of production already prevails in other countries.

several firms will lead to over-capacity in the industry and to a period of intense competition, equilibrium being restored only by the elimination of some of the expanded firms. A firm that realises this will consider expansion only if it is certain of its ability to survive such a period of intense competition.

If most of the firms producing on a small scale are independent concerns and there is in the industry one large firm with interests in other industries, this firm may be well placed to expand. It may be the only firm with sufficient resources to finance the expansion and to survive a period of excess capacity. With the presence of two or more powerful firms in the industry, in addition to the many independent producers, there is again the possibility that no firm will risk expansion. The only solution in such circumstances appears to be an agreement among these firms for the establishment of a joint subsidiary to exploit the market.[1] There may be difficulties in the way of such an agreement, especially where there is the chance that the demand will later increase.

(2) It may not be easy to bring about a greater degree of specialisation among the firms established in an industry. Although such specialisation may lower costs, there are other factors influencing entrepreneurs. A firm reducing its range of output will have to refuse orders from regular customers for those products it no longer wishes to make. There is the danger that the refusing of such orders will lead to the loss of orders from these customers for the goods in which the firm wishes to specialise. The dangers from this source are clearly greater when one firm acts alone than when there is agreement among the leading firms in an industry. While it may not be easy for the firms concerned to come to such an agreement it is not impossible and something of this sort has occurred in the machine tool industry.

[1]The capacity of the latest machines for the manufacture of the glass bulbs for electric lamps is such that two machines can produce more than enough to meet the requirements of all United Kingdom manufacturers. The two machines in use are owned by a joint subsidiary of the two largest lamp manufacturers, British Thomson-Houston and G.E.C. (Monopolies and Restrictive Practices Commission, *Report on the Supply of Electric Lamps*, paras. 142–143.)

(3) Manufacturers are not, however, limited to producing for their home markets. If a sufficiently large export trade can be developed it may compensate for the small home demand and allow production on an optimum scale. Whether this is possible will depend upon the existence of a sufficiently large potential export market and upon the competition in that market. If the combined home and export markets are insufficient to allow production on an optimum scale the small country will inevitably be at a disadvantage when competing with a country which has a large home market. Moreover, if at a later stage, the home demand in the small country and the export demand increase a disadvantage will remain. The large country will have been able to establish connections in the export markets and it will be difficult, though not necessarily impossible, for newcomers to secure a foothold in these markets.

At the present time it is a risky investment to set up a plant that can work to capacity only if a large proportion of output is exported. The chief danger is that export markets will be closed, either because of balance of payments difficulties in the importing country, or to promote the development of local industries. In this article, however, we shall be concerned to a large extent with comparisons between the position now and in the inter-war years. The risks mentioned have increased greatly in the post-war period. On the other hand, it must be remembered that in the inter-war period they had already increased compared with the period before 1914. None the less, for a small industrial country these risks are inevitable, and they have now been accepted, to a large extent, by a number of British industries.

In the following section we shall see first which branches of the four industries call for large scale production in order to minimise costs. We shall see how far these branches were the ones in which Britain failed to develop an export trade in the inter-war period and how far this failure was due to the small home demand. We shall have to ask why did not one of the firms in an industry expand and drive out its competitors? Could the cost of production have been lowered by greater specialisation? What factors prevented the adoption of

greater specialisation? What opportunities were there for increasing the scale of production by the development of an export market? Was full use made of these opportunities? We shall then see what changes have taken place in the export trade of these industries in the post-war period, and how far the greatly improved position in the export trade is associated with changes in the scale of production.

II.

We shall begin by considering the refrigeration industry since it is the one for which we have the most satisfactory statistical data. The products of the industry fall into three classes :—

(1) Domestic refrigerators with a storage capacity of less than 12 cubic feet.
(2) Commercial refrigerators with a storage capacity of over 12 cubic feet and a rating of under 10 horsepower.
(3) Industrial machinery with a rating of over 10 horsepower.

Industrial refrigerating machinery includes installations for the cooling of ships' holds, large cold stores, ice rinks and so on. Each installation has to be separately designed though some components for the installation may be standard and taken from stock. A compressor unit, the mechanical part of the installation used for the re-liquifaction of the vaporised refrigerant, may be employed for almost any type of installation provided it develops sufficient power. The cooling unit and piping may have to be made specially for the installation and the insulation work must be done at the site, where the whole installation is assembled. Economies of scale arise only in the manufacture of standard components like compressors. The largest of these, however, will only be made to order. The reason is that they take up a large proportion of the floor space of the works and tie up a great deal of working capital. These factors offset any advantage that would be gained by putting a number of such units through together.[1]

[1]It must be remembered that very few units of a large size will be required in the course of a year and it is almost unknown for two units of the largest size to be required at the same time.

The domestic refrigerator consists of an insulated cabinet with its own refrigerating unit. It requires only to be connected to an electricity main [1] for it to be ready for use. These cabinets can be standardised and the cost of production reduced by the adoption of large scale methods. Commercial refrigerators fall into two classes. There are self-contained cabinets differing from the domestic only in their greater storage capacity and there are special installations for cooling small stores and so on which differ from the industrial only in their lower power rating. Economies of scale can be obtained in the manufacture of self-contained commercial cabinets in the same way as with domestic models. With the second class of commercial refrigerating machinery economies of scale arise only in so far as standard components can be used.

We are now in a position to apply the argument of Section I to this industry. In judging the success of the industry in developing its export trade we shall use three criteria :—

(1) The percentage of output exported.
(2) The excess of exports over imports or *vice versa.*
(3) The share of the world market held by British producers.[2]

Table I gives figures of the output and foreign trade of the United Kingdom for these four industries in 1935 and 1948. Table II compares the exports of the United Kingdom and the United States in 1937 and 1948.[3]

We see that in the case of the refrigeration industry in 1935 exports amounted to less than 9% of output and that the

[1]Some refrigerators recover the vaporised refrigerant by dissolving it in some other substance instead of by mechanical compression. The refrigerant is then separated from the solution by heat. Refrigerators of this type may be designed for use with gas or any other form of heating.

[2]In this article we give only figures for the exports of the United States. This is because in most cases the United States was the chief exporter of the products of these industries and exports from other countries were small. The machine tool industry in the inter-war period is an exception for German exports exceeded those of the United States. The position of Germany in this industry will be discussed below.

[3]The two tables refer to different inter-war years. From other figures available it is clear that these were not exceptional years and there is no danger of introducing serious errors into any comparisons as a result of the difference.

value of imports was nearly double that of exports. Moreover, British exports were only one-tenth of the value of those of the United States.

The tables also show clearly the change that has taken place in the refrigeration industry since the end of the war. Exports in 1948 amounted to 26% of production, a figure which, according to information supplied by the British Refrigeration Association (BRA) had risen to 43% by 1950. Imports had fallen below their inter-war level despite the rise in the price level. Moreover, British exports had risen relatively to those of the United States.

TABLE I

OUTPUT, EXPORTS AND IMPORTS

Values £'000

	1935			1948		
	Output	Exports	Imports	Output	Exports	Imports
Refrigerating machinery	3,099	272	522	14,244	4,091	336
Radio apparatus	18,030	1,608	1,262	147,474	12,130	1,115
Fractional H.P. motors	728	80	96	7,404 (*a*)	1,573	104
Machine tools	6,735	2,242	1,702	68,327	15,227	5,303

Sources : *Census of Production*, 1935 and 1949.
Annual Statement of Trade and Navigation of the U.K., 1935 and 1948.
Monthly Digest of Statistics, May, 1949.

(*a*) This figure includes other electrical machinery of fractional horse-power. Such machinery will, in practice, be negligible in amount. The figure is taken from the *Monthly Digest of Statistics* and refers to deliveries. This, like the 1935 *Census of Production* figure excludes motors made for the manufacturers' own use and not for sale.

For our present purpose it is more important that we should consider the position in the different branches of the industry. In 1939 the *Annual Statement of Trade* adopted a new classification which is more useful to us than the earlier ones. For the first time it recorded separately the trade in electrically

TABLE II

EXPORTS OF THE UNITED KINGDOM AND THE UNITED STATES

Values $ million

	1937		1948	
	U.S.A.	U.K.	U.S.A.	U.K.
Refrigerating machinery	24·2	2·3	79·1	27·8
Radio apparatus	32·1	9·0	46·5	44·1
Fractional h.p. motors	1·2	0·6	3·9	5·8
Machine tools	43·7	10·6	106·8	56·6

Sources : Annual Statement of Trade and Navigation of U.K., 1937 and 1948.
Foreign Commerce and Navigation of the U.S.A., 1937 and 1948.

operated domestic refrigerators.[1] The foreign trade figures for 1939 are given in Table III. Imports of domestic refrigerators were about 50% greater than exports whereas exports of other types of refrigerating machinery were 12% greater than imports. It is certain that if more detailed statistics were available these would show that imports of the heaviest class of industrial machinery were negligible in comparison with exports.

We must now ask what was the reason for the comparative failure of the British refrigeration industry to develop an export trade in the inter-war period. We shall concentrate upon the export trade in domestic models since the American statistics show that this was the field which offered the largest potential export market.[2] There is no doubt that the primary reason was the small scale of production in British factories. Indeed, the BRA has stated that there was hardly any production at all in Britain apart from the assembly of imported components. At this period the demand in the British home market was small. This was due not only to the small population of the

[1]Only a very small proportion of the domestic refrigerators entering foreign trade would not have been electrically operated.

[2]Of the total United States exports in 1939, 47% were of complete domestic refrigerators, 9% complete commercial refrigerators and 30% parts for domestic and commercial refrigerators.

country compared with that of the United States but also to the fact that a much smaller percentage of the population of Britain was prepared to buy a refrigerator.

TABLE III

U.K. FOREIGN TRADE IN REFRIGERATING MACHINERY, 1939

Values £'000

	Exports	Imports
Electric domestic refrigerators	96	143
Other refrigerating machinery	273	236
Total	369	377

Source : Annual Statement of the Trade and Navigation of the U.K., 1939.

In section I three ways were suggested in which the handicap of a small home demand could be overcome. The first was increased concentration of production. If the whole of the United Kingdom demand had been supplied by one firm, instead of by the half-a-dozen or so leading firms that existed in 1935, the cost of production would have been lower. Any one firm in the industry would have benefited by expansion so long as no other firm expanded. There was no one company that was especially well placed to make such an expansion. There were at least six firms capable of expanding to considerable size and it is improbable that any marked expansion on the part of one of these would have been allowed to pass without imitation. These firms were Frigidaire, a subsidiary of the General Motors Corporation, Kelvinator, a subsidiary of the American refrigeration firm,[1] International Refrigerator Company, until 1928 a subsidiary of the American General Electric organisation,[2] Pressed Steel Company, controlled by American interests (though not connected with the American refrigeration

[1]Now merged with automobile interests in the Nash-Kelvinator Corporation.

[2]In 1928 the name of the holding company, Metropolitan Vickers (originally Westinghouse) was changed to Associated Electrical Industries. At this time the control of the group passed into British hands. The name Metropolitan Vickers was taken over by one of the manufacturing subsidiaries. Among the other subsidiaries are British Thomson-Houston and the International Refrigerator Co.

industry), Electrolux, a subsidiary of a Swedish company,[1] and G.E.C. Any form of agreement between these firms for a joint subsidiary to exploit the field is difficult to envisage.[2] The industry was confident that in time the British demand would increase and the firms that were established in the industry would have hesitated to take any action that would have reduced their freedom when this increase in demand occurred. Increased concentration of production could, therefore, only have been brought about by government intervention in the industry.

Next we must consider increased specialisation. In section I we discussed certain general difficulties which confront a single firm if it attempts to specialise. These apply to the refrigeration industry and there are others which are peculiar to the industry. A commercial cabinet in a shop may be the means of bringing the name of the manufacturer to a potential domestic buyer. A firm making only domestic models might therefore be at a disadvantage compared with one making both domestic and commercial. It was the market for domestic refrigerators that was expected to show the greatest expansion in the future and a firm would have hesitated to specialise on commercial equipment and so lose the chance of sharing later in the expanded market for domestic models.

The final possibility that we must consider is that the British refrigeration industry could have entered the export market as a means of increasing its scale of production. A rough calculation based on Tables II and III suggests that American exports in the inter-war years were about equal to British production.[3] Could British manufacturers have secured a substantial share of this market? We have seen already that the American exports consisted principally of domestic

[1]Manufacturers of a patented type of heat operated refrigerator.

[2]We must not overlook the possibility that participation in such an agreement by the American firms would have been held to constitute an infringement of the Sherman Act.

[3]The export of domestic refrigerators from all countries was small compared with that from the United States. Sweden had the next largest export trade. This consisted mainly of the patent protected Electrolux refrigerators. The refrigerator exports of other countries were mainly of commercial and industrial machinery.

refrigerators, so that the export market was large relatively to the small British output of such models. If we look at the position in the period 1935–1939 the problem is how the British manufacturers could have entered markets already dominated by the United States. An entry into these markets would have been very difficult and it is not surprising that no firm was prepared to risk setting up plant that would have worked to capacity only if this attempt had succeeded. The question remains whether British manufacturers could have developed the export trade before the American. This would have been impossible. The use of domestic refrigerators was well established in America before production started in Britain. The British demand, like that of all countries apart from the United States, grew slowly. The United States, with its established industry, was able to build up its export markets without competition. At the time the United States first entered the export market the total non-American demand for domestic refrigerators was very small compared with its home demand and no other country could have achieved a scale of production equal to that in the United States.[1]

From Table IV we get an idea of the increase that has taken place since the end of the war in the output and exports of the

TABLE IV

OUTPUT AND EXPORT OF REFRIGERATING MACHINERY, 1950

Values £ million

	Output		Exports	
	Value	%	Value	%
Domestic	11·5	50	6·5	66
Commercial	7·8	39	2·1	21
Industrial	3·5	11	1·3	13
Total	22·8	100	9·9	100

Source : BRA.

[1]We must not forget the role played by United States firms in the British industry. The interests controlling these might have preferred that their British subsidiaries should not enter the export market in competition with the parent company, even if this had been possible.

industry. The value of output has increased more than sevenfold while prices are less than three times as high as in 1935. The volume of production therefore has risen by at least 150%. The greatest increase has been in the output of domestic refrigerators. The importance of the domestic refrigerator in the output of the industry is seen from the table. The leading makers of domestic refrigerators now use mass-production methods very similar to those of the United States manufacturers.[1] This increase in the scale of production has been one of the main factors in the increase in British exports of domestic refrigerators.

It is not easy to give the exact cause of the increase in the scale of production in the industry. At the end of the war British manufacturers would soon have become aware of the increased home demand. The demand in other countries had also increased so there was a larger potential export market. This too would have had some influence on British manufacturers though it is impossible to say what relative importance they attached to the increased home demand and to the possibility of making a break into the larger export market. To some extent the two are inter-related. In the post-war period the industry has operated under a quota scheme. A firm failing to export the required proportion of output in one period finds that its supplies of raw materials are reduced in the next period. Unless, therefore, the firm plays its part in the export drive it is unable to take advantage of the increased home demand.

While the most important factor in enabling British manufacturers to secure an increased share of the export market has been improved methods of production, which have lowered costs and made British prices competitive with American, other factors have played a part. Countries which have had sterling to spend but not dollars have been willing to buy British goods when they would normally have preferred

[1]Methods of production in the two countries are very similar as a result of technical co-operation arising from the financial links already mentioned and patent licensing arrangements affecting some of the independent British manufacturers.

American.[1] Had the increased demand shown itself in more normal times it would have been more difficult for the British firms to have forced their way into export markets that had previously been supplied by the United States.[2] In addition British firms have improved their marketing methods in the export trade.[3] British firms now have agents in most parts of the world, even in countries where the standard of living is low and the potential demand still small. There is now very close contact between the manufacturers and these agents and a leading executive of one firm has spent much of his time flying to all parts of the world visiting the firm's agents. Firms are prepared to take trouble to find out the requirements of an overseas market and to produce equipment suitable for use in that market.[4] Where a country may prefer to assemble refrigerators itself, either to provide employment at home or to save foreign exchange, some British firms are prepared to export their products in a "knocked down" condition.

We turn next to the fractional horsepower motor industry in which conditions in the inter-war years were very similar to those in the refrigeration industry. We are concerned with two types of motor, those used in domestic electrical appliances and those used in industrial machinery. Economies of scale

[1]This factor applies, to some extent, in all the four industries. The changeover to British sources of supplies has been facilitated in the case of the refrigeration industry by the availability of products very similar to the American from the subsidiaries or the licensees of American companies.

[2]The home market in the post-war period has been sufficiently large to allow production on an optimum scale. The export market was not essential to the reorganisation of the industry, except for the fact that the Government might not have allowed an industry supplying luxury goods to the home market to expand. In more normal times this consideration would not have applied. In the absence of the favourable position arising from the dollar shortage British firms would have had a difficult task in developing an export market but it could have been done gradually.

[3]It must be emphasised that the marketing techniques of the industry in the inter-war period were not the real source of the failure to develop an export trade. For this reason the change in marketing techniques has not been discussed fully. We have merely indicated some of the improvements that have been made.

[4]We may mention one way in which a refrigerator must be designed to meet the requirements of a particular market. For efficient operation in tropical climates a refrigerator must have thicker insulation because of the greater temperatures in which it is operating.

can be obtained in the manufacture of both types of motor but they are most important in the case of those for domestic appliances. These are easily standardised in order that advantage may be taken of the economies of scale. It is important that the cost of these motors should be kept as low as possible for they account for a large part of the total cost of the finished appliance, the demand for which may be elastic. A much greater range of motors is required for industrial applications and these cannot, therefore, be produced on the same scale as those for domestic appliances.[1] However, a number of standard models are produced on as large a scale as possible. Economies of scale in the manufacture of this type of motor are less important in so far as the motor accounts for a smaller proportion of the total cost of the finished product than does the domestic appliance motor.

From Table I we see that in 1935 exports amounted to 10% of production and were exceeded by imports, though not to the same extent as in the refrigeration industry. British exports (Table II) were equal in value to about half of those of the United States.[2] Though there are no conclusive statistics available there is every reason to believe that British exports consisted mainly of industrial motors rather than of those for use in domestic appliances whereas the reverse was true of the United States.

British manufacturers were handicapped by the small demand for motors of this type, particularly the domestic appliance motor. It cannot be argued, however, that the home demand was too small to allow one firm of optimum size to exist. The output of the industry, excluding output for the manufacturers' own use, was nearly 300,000 motors a year. The output of each of the leading makers of domestic appliance motors to-day is about half-a-million motors a year.[3] If these

[1]Many industrial applications require a specially designed motor and the cost of such a motor is necessarily greater than that of the standard industrial motor.

[2]It is almost certain that the United States was the chief exporter. Many countries, including Germany, do not publish separate figures for the trade in fractional horsepower motors. Some do not even separate electric motors and generators.

[3]These firms produce both industrial and domestic appliance motors.

300,000 motors had been produced by one firm instead of the 51 that were actually established in the industry the cost of production would have been much lower.[1]

As in the refrigeration industry there were factors at work which tended to prevent any single firm from attempting to expand and drive out its competitors. Among the leading manufacturers were companies well-established in other fields. Some of these were well-known makers of larger electric motors; others had even wider interests in the electrical engineering field. In this latter class were Metropolitan-Vickers,[2] British Thomson-Houston and the General Electric Company. These were all capable of expanding and would certainly not have allowed a competitor to expand alone. Specialisation would have helped to lower costs though it is unlikely that this alone would have made British prices competitive with American. The general difficulties in the way of specialisation apply though there are no special factors like those in the refrigeration industry. The export market offered comparatively little scope for the British manufacturer to increase his scale of production. American exports were only twice as great as British and were equal, therefore, to about 20% of British output. The potential export market, therefore, was smaller relatively to output than in the refrigeration industry.

Since the end of the war the demand for fractional horse-power motors has greatly increased in all parts of the world. By 1948 the value of British production had increased tenfold over that of 1935 and has continued to increase. There are now at least four firms each making about half-a-million motors a year for use in domestic appliances and industrial machinery. Other manufacturers making only motors for industrial applications have also increased their scale of production. It is the increase in the home demand that has been the main factor in the expansion of the industry. During the early part of the

[1]There was probably a high degree of concentration on the larger firms in 1935. Even so, the output of any one of these would have been small by present day standards, or by 1935 American standards.

[2]This company no longer makes motors of this rating but acts as a sales agent for part of the output of the sister company, British Thomson-Houston.

post-war period the government restricted the proportion of output that could be exported.[1]

We turn now to the machine tool industry which is of special interest because of the high degree of specialisation that is found there. We may distinguish two main types of tool, the general purpose or universal tool, and the special purpose tool. The former are found in general engineering workshops where skilled men use them for a variety of operations. Special purpose tools are found in mass-production factories and are used for a single operation by semi-skilled or unskilled labour. Economies of scale exist in the manufacture of both types of tool. The only difference is that the demand for universal tools is greater and an optimum scale is more easily reached. The only case where economies of scale are unimportant is where a tool must be produced to order. This may be a universal tool of unusual size, or a special purpose tool of a type that has not come into general use.

Table I shows that in 1935 a higher proportion of output (one third) was exported by this industry than by any of the others we are studying. The value of imports was equal, however, to 80% of the value of exports. The simultaneous existence of a large export and import trade can easily be explained. British manufacturers were able to export a large part of their output of those tools they produced. There were many types of tool, the so-called "gap machines," which were not made in Britain. Among these were many types of special purpose tools for which the demand in Britain was small. Supplies of such tools were obtained mainly from the United States. That country had the advantage of larger tool-using industries and the greater readiness of her tool-using industries to adopt mass production methods and the use of special purpose tools. The American machine tool makers have usually had a substantial demand for a new type of special purpose tool long before such a demand has existed in Britain or in any other tool-making country.

[1]The object was to ensure that British manufacturers of domestic appliances and of machinery for the re-equipment of British industries did not go short of supplies. A large part of the output of domestic appliances was for export.

We must now enquire how far the British machine tool industry could have improved its export performance in the inter-war period by the adoption of one or more of the policies we have been considering. The most unsatisfactory position existed in regard to some types of special purpose tools. So long as the United States could produce these on a large scale, and British home demand plus the export demand did not allow British manufacturers to produce on a comparable scale the British manufacturers were under a severe handicap. That was inevitable. Only when the demand in Britain and in other countries outside the United States had increased did it become possible for British manufacturers to reach the optimum scale of production. What has happened in this industry is that the British manufacturers have tended to take up the production of new types of tools as soon as conditions have made it possible The "gap machines" of the inter-war period are now produced in Britain but new "gaps" have appeared. This explains why the level of imports in 1948 was so much higher relatively to exports and to output than in any of the other three industries.

Did Britain, however, develop the export trade in universal tools to the fullest possible extent ? The demand for this type of tool was much greater than that for special purpose tools and Britain was not at the same disadvantage compared with the United States. It is generally accepted that British prices for this class of tool were lower than American. The export market in this field was dominated by Germany and not the United States. The value of German exports over most of the inter-war period was much greater than that of United States exports. It is clear, therefore, that there was a far greater potential export market than that which was being supplied by British manufacturers. The position might have been improved by an increased concentration of production. Costly design and development work might have been more easily undertaken by a large firm than by a small. Increased concentration would not, however, have allowed a very great increase in the scale of production of any particular type of tool. The output of the industry was concentrated to a very large degree on the dozen or so leading firms. The output of these firms was highly

specialised. Since 1917 most firms have made only one type of tool and it has been rare for more than two leading firms to be in competition with each other. This high degree of specialisation may be attributed to the experience gained of its benefits while the industry was under government control during the war years. In part it was brought about by agreement between those leading manufacturers who combined to form Associated British Machine Tool Makers Ltd. (ABMTM). These manufacturers agreed to specialise in non-competing lines and the new company was formed as a sales organisation for the whole group. The formation of such a group also brought economies in marketing. The group could meet all normal requirements while the individual manufacturers still enjoyed the benefits of specialisation. The group has its own sales organisation in its main export markets and appoints one agent for the whole group in other countries. The policy of specialisation is not confined to the members of the ABMTM group. It has also been adopted by other leading manufacturers.[1]

Why then was Germany so much more successful in developing her machine tool export trade? If production was on a larger scale than in Britain this was itself due to the size of the export trade. In part the answer may lie in methods of export marketing. If American trade journals are to be believed, however, British marketing methods in some countries were in advance of American practice. This may have applied only to the Commonwealth countries and to France, Britain's best foreign market. In other countries British methods may well have been inferior to those of the United States and Germany.[2] There are, however, other factors that must be taken into account in explaining the success of the German industry. It is usually accepted that labour costs in Germany

[1]Alfred Herbert Ltd., the largest British machine tool maker, is outside the group and has its own sales organisation in this country and in some overseas territories. It accepts agencies for non-competing lines (including agencies for imported tools) and thus secures economies in marketing similar to those enjoyed by the ABMTM group.

[2]British engineering journals contain many instances of British firms failing to supply catalogues in the language of the country, giving measurements in the British system and so on.

were lower and that German prices were made artificially low by exchange rate manipulation. The industry may even have been subsidised in order to enable it to build up its export trade, the real object of the Government being to expand the capacity of the industry as part of the country's war potential.[1] In view of these special advantages of the German manufacturers it is doubtful whether British firms, without some form of Government assistance, could have captured the German manufacturers' export markets.

Little need be said about the machine tool industry in the post-war period. The level of exports has increased relatively to imports and to exports from the United States.[2] The output of the industry has also expanded.[3] Britain has been producing and exporting types of tools that she was importing in 1935. On the other hand new gaps have been appearing in the British range of output. It is difficult to see how this can be avoided as long as the initiative in the tool using industries lies with the United States.[4]

Finally, we turn to the radio industry. We deal primarily with the production of complete sets rather than the production of valves and components. The statistics of the industry suggest a position very similar in 1935 to that of the other industries. Exports were less than 10% of production and only a very little in excess of imports. The value of United States exports was over three times that of British. Moreover, when the figures for different branches of the industry are analysed we find that it was in the case of domestic receivers,

[1]These views are contained in reports of officials of the U.S. Bureau of Commerce as well as being held by representatives of firms in the industry.

[2]Imports have exceeded exports since the start of rearmament. Exports are being maintained, however, so that market connections are not lost, even if this means importing tools which could have been obtained more cheaply from British manufacturers.

[3]Employment in the industry in 1947 was about double that in 1935.

[4]If a new type of tool were introduced first in this country the small scale of production would not matter. No other country would be producing on a larger scale. Much depends upon the tool users. There are instances of a new development brought out by British tool makers being rejected and an almost identical development introduced by American manufacturers being accepted at once.

the branch of the industry where economies of scale are most important, that the failure of the British manufacturers to exploit the potential export market was most marked. Table V shows that transmitters, mainly made to order and not, therefore, subject to economies of scale to the same extent as domestic receivers, were almost as prominent in the export trade as receivers although production was many times less.

The similarity between the position in the radio industry on the one hand and the refrigeration and fractional horsepower motor industries on the other is superficial. It cannot be said that the demand for radio receivers in this country was small. Radio was as popular in Britain as in any other country and Britain led the world in the establishment of a regular television service (although the demand for television receivers disappointed the trade until after the war). By 1935 the greater part of the output of the industry was concentrated on a number of leading manufacturers whose scale of production was large enough to have enabled them to produce at competitive prices. The failure to develop an export trade must be sought elsewhere.

TABLE V

U.K. RADIO INDUSTRY, OUTPUT AND FOREIGN TRADE, 1935

Values £'000

	Output	Exports	Imports
Receivers	12,209	363	332
Transmitters	737	218	22

Sources : Census of Production, 1935.
Annual Statement of Trade and Navigation of U.K., 1935.

The expansion of the radio industry in Britain was rapid and this may have tended to take the attention of British manufacturers away from the potential export market. On the other hand, there were periods when productive capacity increased more rapidly than the demand, resulting in periods of intense competition and low profits. Under such conditions the export market might have been regarded as being particularly attractive. British manufacturers did not, however, turn to the export market at such times. They lacked the

marketing arrangements necessary to transmit the foreign demand to them.[1]

The capacity of the British radio industry was greatly increased during the war. The export trade has increased more than in proportion to this increased output, particularly in the case of domestic receivers. Receiver exports in 1949 were valued at £2,594,000 and exports of radar and communications[2] apparatus at £2,925,000. The main factor in the increased export of domestic receivers has been the improvement that has taken place in marketing facilities. We may refer to one example of this, the great attention now paid to trade buyers from overseas at the National Radio Show and at the show organised by the Radio and Electronic Component Manufacturers' Federation. Two reasons may be suggested for this change. First, the expansion of capacity during the war. This makes it difficult to maintain full capacity working in the absence of a substantial export trade, especially since the home market has been restricted by purchase tax.[3] Secondly, this branch of the industry was, until 1948, under an obligation to export a proportion of its output.[4] Radio manufacturers were, therefore, forced by the Government to develop their export trade.[5]

III.

We have seen that the development of some British engineering industries, particularly their export trade, has been

[1]Such facilities would have been needed in order to acquaint manufacturers with the type as well as the number of sets required.

[2]The demand for radar apparatus is an entirely new demand. That for communications apparatus has increased greatly since the war.

[3]One object of the purchase tax may be to divert output to export markets.

[4]The quotas did not apply to firms setting up factories in the Development Areas.

[5]The export trade in domestic receivers is particularly difficult and risky. Simple sets are easily assembled so that backward countries may be self-sufficient. If the sets these countries make are poor by British standards they may be good enough to satisfy the local demand. As local production increases the market for domestic receivers will decline. When this happens it will be necessary for Britain to switch to the export of components. The development of a large trade in components at the present time by British manufacturers is therefore encouraging. These difficulties do not apply to the trade in complex radar and communications apparatus.

handicapped by the relatively small British home demand for their products. We would not go so far as to argue that Britain should be able to develop an export trade in every manufactured product and should import none. On the other hand, the present state of the British economy makes it imperative that there should be no unnecessary imports and that no opportunity to develop an export trade should be lost.

There are those cases where little or nothing can be done to develop an export trade. If a new commodity becomes popular in the United States while the demand is still small in Britain and in other countries it may be impossible to produce in Britain on the optimum scale. We must concern ourselves, however, with those cases where it is not so much the small home demand as the organisation of the British industry that is to blame for the scale of production being too small. We cannot rely upon an industry left to itself taking the necessary steps to remedy such a situation. In the type of oligopolistic situation we have been considering fear of similar action by competitors may deter a firm from expanding to optimum size. It may not be easy to bring about an agreement between the leading firms to set up a joint subsidiary or to increase specialisation. Where such obstacles exist to increasing the scale of production it appears necessary for the Government to intervene in the affairs of the industry. This certainly raises difficult problems. It may involve the setting up of monopolies. This may be desirable while the demand is small but not if it later increases. Is it possible to avoid perpetuating a monopoly when it is no longer necessary and to control it while it is still necessary? These are problems which cannot be pursued in this article but which cannot be ignored if the arguments advanced here are ever accepted as a basis for policy decisions.

While the home market may be too small to allow British firms to produce on an optimum scale it is not necessarily true that the home plus the potential export demand is too small for this. The Government should encourage industries to export and if necessary to set up plant that can only work to capacity if there is an export market. We have already seen some of the ways in which this can be done. Quota schemes

allocate raw materials to firms according to their success in the export market. Unless they export they do not receive the raw materials they need in order to produce for the home market. Purchase tax, by reducing sales in the home market, may force manufacturers to turn their attention to the export market. It is unlikely that these methods will be available to a government in normal times. There is already a clamour for the abolition of controls of various kinds. Other methods will have to be devised and this may not be easy. Some form of financial inducement may be necessary though it is necessary to treat anything in the nature of a subsidy with care.

It may be necessary for the measures to promote the development of an export trade to go hand in hand with others for the reorganisation of the industry. If the scale of production is much below the optimum the addition of the potential export demand to that of the home market may still leave the scale of production too small. If the output of the industry is first concentrated to a sufficient degree the export demand may be the means of bringing the scale of production up to the optimum.

We have said that where the home market plus the potential export market is too small to allow a British firm to produce on the optimum scale nothing can be done. Indeed, so long as this is so there are no worthwhile export opportunities to be lost. The danger, we have seen, is that the United States, if it takes up a new product before other countries, may gain a foothold in export markets while these are still small and retain an advantage when the demand increases. When the demand increases it is essential that British manufacturers should make the effort to enter the export market, though, in normal times, this will be difficult. The more satisfactory solution is for British manufacturers to take the lead in introducing new products to the world.

J. M. Jackson.

University College of Wales,
Aberystwyth.

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The Rate of Interest: British Opinion in the Eighteenth Century

I

The Legacy of the Seventeenth Century.

By the end of the Seventeenth Century British writers on economic subjects had ceased to consider that the ethical problem of usury was open to any reasonable doubt.[1] Usurers were sometimes still condemned even by the most reputable authors,[2] but generally it was accepted that, in a modern commercial society, there could be no objection to the principle of lending at interest.[3] In the eyes of the law, interest was recognised but limited by a maximum rate, and it was around this that most of the discussion was concentrated. Was the legal rate of interest, ipso facto, the natural rate of interest; and if not, what were the natural determinants?

The question arose as a result of the publication[4] of Sir Josiah Childs' plea for a reduction of the legal rate, on the grounds that such a measure would enable English traders to compete more effectively with the Dutch, and thus lead to an expansion of English exports.[5] With few exceptions[6] it was agreed that however desirable a low rate of interest might be,

[1]This is not to say that there was no further discussion on the point; for a concise summary of the literature on usury see Benjamin N. Nelson, *The Idea of Usury*. (Princeton) 1949.

[2]e.g., Charles Davenant, *An Essay upon Ways and Means*, 1695. (Printed in Sir Charles Whitworth's edition of Davenant's *Works* of 1771), p. 57. Also [John Briscoe] *A discourse of Money* . . . [London] 1696, p. 34.

[3]Sir William Petty's justification of this view, on the grounds that the lender ought to be allowed compensation for the inconvenience of being without his money (*Treatise of Taxes*) 1662 (C. H. Hull's edition, Vol. i p. 47), was generally accepted. Others added that since borrowed money was productive, there was no moral reason why interest should not be paid, *e.g.* John Locke *Some considerations on the lowering of interest and raising the value of money*, 1691 (references are to the 9th edition of Locke's Works, 1794, Vol. 4), pp. 36–37.

[4]Sir Josiah Child, *A New Discourse of Trade* (written 1668-9, but references are to the Glasgow edition of 1751).

[5]*ibid* p. 6, p. 15 et seq., p. 39.

[6]The most important economist who was exceptional in this way was Nicholas Barbon in *A Discourse of Trade*, 1690 pp. 88–89, p. 92.

to attempt to reduce it by purely administrative means would be harmful and ineffective.[1] Interest was a natural phenomenon determined by natural forces.

The analysis of these natural forces was carried out from two slightly different points of view which, however, were eventually synthetised into one all embracing theory. Sir William Petty[2] approached the problem from a consideration of the earnings of different types of capital assets (annual income as a proportion of the capital value of the asset). The considerable differences which he found, were explained to be no more than insurance premia to cover the different degrees of risk attached to each. At the base of this pyramid of assets lay land—the most secure investment, and the land rate of interest ; further up the scale, money loans and the money rate of interest. Assuming that the risk premium between the two was constant, the problem of ' interest ' was reduced to the discovery of the factors which governed the value of land.

Petty himself, with his profound knowledge of the facts of the contemporary English economy, was at this point led off the track by the peculiar condition of the land market in the seventeenth century,[3] and as a result, built up a theory which explained the extreme rigidity of the value of land, but in terms so simple that the essential problem of the rate of interest was assumed away. The value of the fee simple, be argued, depends on the length of time during which the purchaser (and those of his successors whose welfare enters directly into his calculations) expect to enjoy the annual rent.

[1]Locke's statement can be taken as typical " The first thing to be considered is, ' Whether the price of the hire of money can be regulated by law ? ' And to that I think . . one may say it is manifest it cannot " *ibid* pp. 4–5. Locke argued quite explicitly (*ibid* p. 66) that high interest might be the result of thriving trade and that this situation had occurred during the reigns of Elizabeth and the first two Stuarts.

[2]*Treatise of Taxes*, Vol. 1. p. 48. *Quantulumcunque concerning Money*, 1682 Vol. 2 pp. 447–448.

[3]For a recent discussion of this curiosity see, H. J. Habakkuk, "The Long Term Rate of Interest and the Price of Land in the Seventeenth Century," *Economic History Review*, (2nd Series. Vol. 5, No. 1, 1952). Professor Habakkuk points out that there was no direct relationship between the rate of interest and the price of land. Despite the fact that interest was falling, the price of land remained steady throughout the century at about 20 years' purchase.

This period, Petty calculated to be 21 years[1] and so he concluded that land would naturally tend to be valued at 21 years' purchase—a figure which corresponded with the facts of the land-market[2] but which, by implication, led to the obviously unacceptable view that the natural rate of interest was inversely related to the expectation of life of the lenders.

The second approach to the problem attempted to produce an analytical formula by which any rate of interest could be explained more satisfactorily. The existence of lending and borrowing was a consequence of the skew-ness of the distribution of wealth which gave the rich a loanable surplus[3] which could be employed profitably by the less well-off.[4] The precise level of the rate of interest depended on the proportion between the lenders and the borrowers,[5] which would be determined by the wealth of the country[6] and the rate of interest itself[7] (on the supply side) and the profitability of investment[8] (on the demand side). At this stage it was easy to incorporate Petty's idea of a complex of interest rates into the general theory, without his unacceptable explanation of the determination of the price of land, and this was in fact done by Sir Dudley North.[9]

[1] *Treatise of Taxes*, Vol. 1. p. 43. The figure is reached by calculating the number of years . . " one man of fifty years old, another of twenty-eight and another of seven years old, all being alive together, may be thought to live . . "

[2] *ibid ;* but in *Verbum Sapienti* 1691 Vol. 1, p. 105, he declared that 18 years' purchase was usual.

[3] Locke, *ibid* pp. 36–37 Sir Dudley North *A Discourse upon Trade*, 1691 (references are to the reprint in J. R. MacCulloch's *Early English Tracts on Commerce*), pp. 3–4.

[4] Locke, *ibid ;* also p. 46. Barbon, *ibid* p. 32.

[5] North, *ibid.*

[6] Locke, *ibid* p. 10. James Puckle, *England's Path to Wealth and Honour* . . . 2nd edition, 1700 p. 31. North, *ibid* p. 4.

[7] North, *ibid* pp. 5–6 ; Locke, *ibid* p. 29. John Pollexfen *A Discourse of Trade and Coin*, 1700 pp. 62–63. Barbon, however, denied that the supply of loans was interest-elastic (*ibid* pp. 88–89).

[8] Locke, *ibid* p. 46 ; and by implication, Barbon, *ibid* p. 32.

[9] Locke, however, strenuously denied that there was any direct link between the price of land, and the rate of interest, but in this he was exceptional, *ibid* p. 36. He was also being rather inconsistent as he admitted the importance of risk premia as an element in interest (*ibid* pp. 64–65).

Of course it would be wrong to imagine that any one of the Seventeenth Century writers marshalled all of these factors into a coherent and consistent theory ; nevertheless the points were made and they provided a spring board for the theorists of the next century, with whom we are mainly concerned.

So far as policy was concerned, there was considerable agreement that a reduction of the legal rate of interest would choke off the supply of loans or divert them away from risky ventures[1] and, hence was not a desirable policy. On the other hand, there was confusion and obscurity as to whether a policy which increased the supply of circulating money would lead to a reduction of the rate of interest. John Law, consistently with the rest of his monetary theory, declared that it would[2] ; Petty, perhaps inadvertently, agreed[3]; and Locke repeated that the " money of a country "[4] was one of the forces governing the rate of interest. The problem of reconciling such views with the Quantity Theory of Prices (which both Petty and Locke expounded) was not faced, and it is probably correct to assume that the effect on the rate of interest of an increase in the supply of money which was not accompanied by an increase in real national wealth was never really considered.

II.

Compared with the previous century, the Eighteenth Century was a period of increased interest in economics, particularly in theoretical problems. I propose to review the development of ideas on the rate of interest in three parts. The first part is devoted to the work of those theorists of the first half of the century who seem to have had most influence on later developments—Hutcheson, Cantillon, Hume and

[1]Locke, *ibid* pp. 4–9.

[2]John Law, *Money and Trade considered* (Glasgow edition 1760), pp. 35–36, p. 124, p. 133.
See also :—William Paterson, *A Brief Account of the intended Bank of England*, (reprinted in the Saxe-Bannister edition of Paterson's Works) vol. iii, p. 85. " It is an infallible sign that money abounds and is plentiful when the interest thereof is low, for interest or forebearance is the price of money . . . "

[3]*Treatise of Taxes*, Vol. 1, p. 88. Where he argued that debasement of the Irish Currency would raise the value of land from 6 to 7 years' purchase.

[4]Locke, *ibid* p. 10, p. 46.

Massie. The second and third parts are devoted to the two major economic theorists of the century, Sir James Steuart and Adam Smith.

1. The Formative Period of the Eighteenth Century.

During his own life-time Adam Smith acknowledged the debt which he owed to " . . . the never to be forgotten Dr. Hutcheson . . . "[1] and it is now generally recognised that Hutcheson's influence on his student was not inconsiderable.[2] In the theory of the rate of interest, however, Hutcheson had no important original contribution to make[3] and his work is best regarded as a summary of the state of knowledge at the end of the previous century[4] which made no attempt to remove the obscurities and difficulties which remained. Interest, it was held . . . " varies according to the state of trade and the quantity of coin,"[5] and will be high in undeveloped (newly settled) and low in developed countries. Hutcheson's reasons for this hypothesis, stated dogmatically as they were, are worth noting. Interest is high in undeveloped countries because profits are high and because the purchase of land is highly profitable; interest is low in developed trading, countries because profits are low.[6] Hutcheson did not elaborate on why this should be so but nevertheless his statement shews that the idea of a diminishing rate of profits was accepted long before the law of diminishing returns had been clearly stated.[7]

[1]Adam Smith's letter of acceptance of the Office of Lord Rector of Glasgow University; printed in W. R. Scott, *Adam Smith as Student and Professor* (Glasgow) 1937, p. 229.

[2]E. Cannan's introduction to his edition of Smith's *Glasgow Lectures*. Also W. R. Scott, *Francis Hutcheson* C.U.P.

[3]Hutcheson's views are found in their most developed form in his *A System of Moral Philosophy* (London) 1755, published by his son nine years after his death.

[4]It is very similar to the first discourse of Sir Dudley North.

[5]*op.cit.* vol. 2, p. 72.

[6]*ibid.*

[7]It is quite common to find the view expressed that increasing national wealth leads to a fall in the rate of interest (Puckle, *op. cit.* p. 31; *Considerations on the East India Trade*, 1700, pp. 46–47, pp. 69–70). Indeed an implicit admission of the law of decreasing returns is to be found in Locke (*ibid* pp. 36–37).

But although the demand for loans was thus linked with the profitability of investment in real terms, Hutcheson's treatment of the supply of loanable funds was obscure. In his analysis of interest, it was stated that the supply of money was the important factor,[1] but there was no discussion of whether an artificial increase in the money-supply would or would not affect the natural rate of interest, and no attempt was made to reconcile this statement with his Quantity Theory of Money.[2] In general terms, we must conclude that Hutcheson left the theory of the rate of interest very much as he found it.

The great merit of Richard Cantillon's[3] analysis of the rate of interest is that it possessed a coherence which was lacking in the writings of most of his predecessors. At the outset he enunciated the formula that interest (like the price of all other goods) depends on the market competition of lenders and borrowers,[4] and, having done this he proceeded to apply it with commendable consistency and perseverance to some of the problems of his day. Borrowers are willing to pay interest because they expect to invest the loans at a profit;[5] lenders demand interest because of the risk of losing their capital.[6] Bearing this in mind it became possible to explain why Billingsgate fish-wives were not able to borrow on such favourable terms as prosperous merchants[7] and why these in turn were at a disadvantage compared with the landlord who borrowed on the security of his land[8] which . . . " gives a standing and a certain Jurisdiction in the State . . . "[9] Petty's idea of a complex of interest rates was thus clarified and the intractable problem of English land values solved in terms consistent with the general analysis of interest.

[1] *ibid.*
[2] *ibid* Vol. 2, Chapter 12.
[3] *Essai sur la nature du commerce en général* written in the early 1730s, published in 1755. References are to the R.E.S. edition of 1931.
[4] *ibid* p. 199.
[5] *ibid* p. 201, p. 203, p. 211.
[6] *ibid* p. 201, p. 205, p. 211.
[7] *ibid* p. 211.
[8] *ibid* p. 223.
[9] *ibid.*

In a similar fashion, changes in interest rates resulting from changes in the political situation (such as the outbreak and the conclusion of war[1]) and from rumours which caused lenders to tremble for their capital,[2] all could be explained, simply, in terms of the fluctuating competition between lenders and borrowers.

High interest (30%) in China and low interest (5%) in Europe could be explained in terms of the relative proliferation of small-scale businesses in the former[3]; low interest in Holland and Genoa and high interest in France and England, in terms of the relative frugality of the nobility and moneyed men of these countries.[4] In each case, once the economic situation had been transformed into the terms of the formula—the proportion of lenders to borrowers—the differences and variations of the observed interest rates were obviously explicable. Finally the dogmatic orthodoxy that the rate of interest was in some sense a function of the supply of money could be tested.

The conclusions which Cantillon reached as a result of his investigation of this topic were tentative and undramatic. The popular belief was " . . . not always true or accurate . . ."[5] since it was possible for new money to find its way into circulation without causing any increase of the proportion of would-be lenders.[6] Generally speaking, Cantillon was convinced that the supply of money and the price level of goods were directly related . . . " without any necessary connection with the rate of interest, which may very well be high in States where there is plenty of money and low in those where money is scarcer . . ."[7] At the same time Cantillon, thought that it would be equally wrong to reverse the traditional generalisation, for he could think of cases where an increased money supply would reduce

[1] *ibid* p. 217.
[2] *ibid* p. 215.
[3] *ibid* pp. 211–213.
[4] *ibid* p. 217
[5] *ibid* p. 213.
[6] Cantillon stated that this occurred in England in the boom of 1720, when the circulation was increased by the issue of paper money. (*ibid.* p. 213).
[7] *ibid* p. 215.

interest, notably, when the new money was injected into circulation by the money lending class.[1]

For this reason Cantillon never doubted the ability of the Bank of England to alter the price of British Government securities by open market operations. Indeed, the effect of such operations on the public's expectations of the probable future level of interest might well, he thought, lead to a considerable amplification of the impact of the Bank's own buying.[2]

Formally, Cantillon's conclusion was one of complete agnosticism. Anything could happen depending on circumstances. Money in itself, however, was no longer important as a determining factor, but only in so far as it influenced the supply of, and the demand for, loanable funds. The elegance of Cantillon's analysis is undeniable ; and yet there is something insubstantial about it. The lenders and the borrowers were brought to the forefront but except in the case of his very thorough analysis of the effect of risk on the supply of loans, little space was devoted to the discussion of what determines the proportion between them in any situation. Important factors, such as the productivity of loans and the frugality or extravagance of the wealthy classes were mentioned, but in an inconsequential way which suggests that in his concern with the problem of the structure of interest rates, Cantillon forgot about the problem of the ' natural ' rate upon which that structure was erected.

Hume's analysis is not open to such criticism. He neglected to give any consideration to the risk-differential between loans and its effects on the interest charged, and directed all his efforts to analysing one, undefined, rate of interest.[3]

Like Cantillon, the analysis began from the hypothesis that the rate of interest is determined by the competition of lenders and borrowers. But this competition, according to

[1] *ibid* p. 215. Cantillon thought that this situation was found when the domestic circulation was increased by a favourable balance of trade. (*ibid* p. 219).

[2] *ibid* pp. 321–323.

[3] The Essay *Of Interest* in the *Political Discourses* 1752. References are to the New Universal Library edition.

Hume, was controlled by three important 'real' forces, the quantity of accumulated loanable funds, the demand for the use of them and the average rate of profits earned in business.[1] In the elaboration of these ideas one of the important differences between Hume and Cantillon becomes obvious. There is no doubt that Cantillon considered the borrowing of merchants and business men as an important part of total borrowing: it is equally clear that Hume totally neglected it and concentrated his attention exclusively upon the consumption-borrowing of landlords and others. Hume's analysis was throughout based on the assumption that borrowing was a result of prodigality.[2] Given this assumption, it followed that the demand for loans would depend on the " habits and manners " of different societies, that it would be high in a profligate society and low in a frugal society. In Hume's view, the profligate society would be one in which the landed-interest was of predominating importance and the frugal society one in which the merchant class was predominant.[3] This was in keeping with the tradition of British Mercantilism and hence Hume felt able merely to state it as an obvious sociological fact requiring of no further proof or elaboration.

Merchants were savers by the nature of their occupations and, hence, in a merchant-dominated economy, not only would the demand for loans be low but the rate of accumulation of loanable funds would be high. These funds would be available either for investment in the business of the saver or as loans to landlords. Whether they went to the one or to the other would depend on their comparative profitability, and the continuous switching of funds between the two sectors would keep both interest and profits near equality.[4] The orientation of this analysis is different from that of most modern theorists for Hume was arguing not that the profit rate would govern

[1] *ibid* p. 216.

[2] Cantillon mentioned that prodigality among landlords would tend to raise interest rates, but he laid more stress on the borrowing by small-scale entrepreneurs and workmen wishing to establish themselves in business.

[3] *ibid.* p. 217, p. 219, p. 220.

[4] *ibid* pp. 220–221.

the offers that would-be borrowers were willing to make for loans, but that it would regulate the supply of loanable funds to the non-business sector of the economy. The system, however, was not closed because Hume introduced no explicit functional relationship between the demand for loans and the rate of interest. The impression one gets is that he imagined that, at any point of time, a certain absolute demand existed—depending on the importance of the landowning class—which was independent of the current rate of interest.

Although it was not introduced explicitly, some such structural relationship was necessary. Hume was very clearly of the opinion that the rate of commercial profits varied inversely with the quantity of capital productively invested: This was the assumption upon which he based his theory that the rate of profits would tend to fall as commerce increased. When commerce is extended " . . . there must arise rivalships among the merchants which diminish the profits of trade at the same time that they increase the trade itself. The low profits of merchandise induce merchants to accept more willingly of a low interest when they leave off business and begin to indulge themselves in ease and indolence. It is needless, therefore, to inquire which of these circumstances, to wit, low interest or low profits, is the cause and which the effect. They both arise from an extensive commerce and mutually forward each other."[1] Hence although the demand for consumption loans and the total supply of investible funds were fixed by blind sociological and institutional factors and were not interest-elastic, equilibrium at varying rates of interest (with a general tendency to decline as the business sector became more important) was logically tenable.

Money flows did not enter into Hume's general theory of interest, indeed, he set out to show that the quantity of money was an irrelevant consideration. In purely static terms this was easily done. Given that the only effect of an increased supply of money is to increase prices, it is obvious that interest, measured percentage-wise, will not be affected.[2] Hume was

[1] *ibid* pp. 220–221.
[2] *ibid* p. 216.

dissatisfied, however, with strong cases and comparative statics, and proceeded to examine the process by which new money enters the system and its effects on the rate of interest.

Confining himself to the consideration of an influx of bullion, two possible cases were distinguished. Firstly, there might be a sudden inflow, the result of a victorious war or a geographical conquest.[1] In such a case the new money would be concentrated in few hands and would become available for loans before it could have any influence on prices. Unless, however, there was a large community of merchants in such an economy, the reduction of interest rates would be short-lived, returning to the old level " . . . after the new mass of gold and silver has been digested and has circulated through the whole state . . . ".[2]

Secondly, new money might percolate into the system gradually, perhaps because of a favourable balance of trade. In this case there would be no immediate concentration of loanable funds but yet the evidence of European history since the end of the Fifteenth Century was, that such a process might be accompanied by a continuous reduction of interest. Hume denied that there was any direct causal link between these movements. Indirectly, however, the case was less certain, for Hume himself showed in his Essay *Of Money*, that a gradually increasing supply of money had a stimulating effect on a commercial economy, which in turn would lead to increased accumulation and a permanent reduction of the rate of interest.[3] Such a process could be interpreted in terms of the changing composition of society and the gradual decline of profits on business investments, and Hume preferred to look at it from this point of view. On the other hand the reduction of the rate of interest could equally well be regarded as a consequence of the increased supply of money, and from this point of view it would be inaccurate to say that vis á vis the rate of interest, money had been reduced to the position of a mere veil.

[1] *ibid* p. 222. The examples he mentioned were (*a*) Rome after the conquest of Egypt (*b*) Spain after the discovery of America.

[2] *ibid* p. 223.

[3] *ibid* p. 223.

Three-quarters of Joseph Massie's tract on the " governing causes of the Natural Rate of Interest "[1] were devoted to a critique of Locke's hypothesis that the rate of interest varies with the quantity of money in circulation.[2] But whereas Hume based his refutation on a priori deduction from the premise of the Quantity Theory of Money, Massie arrived at the same conclusions from a study of the empirical evidence.[3] It is true that Massie's statistical techniques are open to very serious criticism,[4] nevertheless his courageous attempt at hypothesis—testing is worthy of mention in the evolution of the study of economics.

On the positive side, Massie's main contribution was the clarity of his statement of the concept of a riskless, natural rate of interest, a long-term phenomenon, to which the interest rates of the real world could be considered to be linked by " Praemia of Risque ";[5] and his exposition of the relationship between the productivity of investment and the natural rate of interest—the profit derived from the use of a loan being divided

[1]Joseph Massie, *An essay on the governing causes of the Natural Rate of Interest* London—1750. References are to the reprint of the John Hopkins Press edited by Jacob H. Hollander, 1912.

[2]Massie also tried to disprove Locke's hypothesis that interest would vary directly with the volume of indebtness. The result, however, was inconclusive because the historical evidence adduced was not compatible with Locke's (implicit) *ceteris paribus* assumption e.g. *ibid* p. 20.

[3]*ibid* pp. 35–45, particularly p. 42.

[4]Principally the assumptions (a) that the money price of wheat and barley is an index of the quantity of money in circulation, (b) that the natural rate of interest is generally one per cent below the legal rate.

[5]" It cannot be right to argue about Interest, from the Praemia which such men (profligates) pay for money : because that is introducing Dishonesty or Extravagance where their contraries are always understood to be, . . . and therefore all Risque, more than what is unavoidably produced by the Mutability of human affairs, must either be entirely excluded in all considerations relating to Interest, or there will be a necessity for allowing, there are, or may be, as many different rates of it in a Country, at one and the same time, as there are chances of being paid or not paid, between an absolute certainty of the one and the other . . . *ibid* p. 25. also pp. 20–21.

between the lender and the borrower.[1] Since commercial profits could be expected to decline in the course of economic development,[2] it followed that the rate of interest would also decline—a prediction which conformed with those of Hume and Hutcheson and which seemed to be amply substantiated by the evidence at Massie's disposal.

Massie was not one of the great names in interest theory; compared with Cantillon and Hume, his powers of analysis were small, indeed he rarely used the analytical method.[3] Economics, however, is not merely a matter of analysis, and had Massie's careful definition of the " natural " rate of interest as a long-run, riskless abstraction been adhered to more closely some, at least, of the confusions of a later date might have been avoided.

If, now, we review the position of the rate of interest as Hutcheson, Cantillon, Hume and Massie left it, we can see that there had been no very drastic revolution of ideas. Interest was recognised as a natural phenomenon determined by forces operating in a competitive market. Petty's view of the complex of interest rates had been elaborated and was generally accepted. The idea of monetary determinants had been challenged and more emphasis was being placed on thrift and the productivity of investment. Finally the notion of the declining rate of profits (and interest) was firmly established.

2. The Major Synthesis: Sir James Steuart.[4]

Steuart's principle of the determination of the rate of interest was also basically one of supply and demand. . . . " at

[1]Massie insisted that the ' profit ' in question is the average for the whole economy—" This Rule of dividing Profits is not, however, to be applied particularly to every lender and borrower, but to lenders and borrowers in general; for one Man's having such remarkable skill in his profession as to be able to get double the profit by £100 which others in the same way make, is not a reason why he should pay twice as much interest for it . . . and . . what has been said of particular men in the same Business is applicable to particular Sorts of Business . . " *ibid* p. 47.

[2]Because of the competition between an increasing number of traders; but no satisfactory reason was given why this should be so. *ibid* pp. 49–51.

[3]For example, he never attempted to analyse the relative share of total profit received by the lenders and by the borrowers.

[4]*Inquiry into the Principles of Political Œconomy* 1767. References are to the four volume edition of 1805.

all times, there is in every State a certain number of persons who have occasion to borrow money, and a certain number of persons who desire to lend : there is also a certain sum of money demanded by the borrowers and a certain sum offered to be lent. The borrowers desire to fix interest as " low as they can ; the lenders seek, from a like principle of self-interest, to carry the rate of it as high as they can . . . " The actual market rate is fixed by the demands of those borrowers " . . . as have the most pressing occasion for money (and who) will offer the highest interest . . . " and by the offers of those lenders with " . . . the most pressing occasion to draw interest for their money (and who) will offer it at the lowest interest . . ."[1]

The demand for loans may be divided into the demand of those who borrow " . . . in order to dissipate . . . " and those who borrow " . . . in order to profit " (by productive investment).[2] The productive borrower will never agree to interest in excess of his expected profit.[3] The unproductive borrower is subject to no such concrete inhibition but there is reason to suppose that at high rates of interest his demands will be smaller than at low rates. This is because most unproductive borrowing is on the security of real property, which declines in capital value as the rate of interest rises.[4]

Steuart's analysis of real saving was virtually non-existent and hardly went beyond a statement of the rather obvious fact that when people spend less than their incomes a pool of loanable funds will tend to collect.[5] It was also strongly implied that the relation between consumption and income was not interest elastic.[6] The truth is that he was singularly uninterested in the flows of real savings and preferred to explain the fluctuations in the supply of loanable funds in terms of the

[1] *ibid* iii, pp. 154–155. It should be noted that here we have a very early example of the use of the ' marginal ' principle in economic analysis.

[2] *ibid* iii, p. 158.

[3] *ibid* iii, p. 158. Steuart did not assume that all profits were equal, hence it was possible to construct a demand schedule for productive loans which sloped negatively.

[4] *ibid* iii, p. 159.

[5] *ibid*.

[6] *ibid* iii, p. 165, p. 167, p. 169. In this, of course, he was following the example of Hume.

changing distribution of the existing stock of wealth between cash, loans and purchases of land.[1] It was quite alien to Steuart's thought to regard interest as the reward for abstention from consumption; the loan at interest was merely one way of converting a sterile asset (cash) into a productive one and as such was a direct competitor with land and solid property.[2] The distribution of total assets between these various categories, would of course, depend on their respective profitability and would tend to be such as to equalise the rate of return accruing to each.[3]

It was also alien to Steuart's thought to consider the process of lending and borrowing in non-monetary terms. At any time, a certain fixed quantity of money is necessary for the circulation of the annual production of goods. Whatever surplus there may be over and above this amount, must rest in somebody's hands (in Steuart's terminology "stagnate" or "regorge") and its owner will try to lend it at interest.[4] Other things being equal, the more "stagnated money" there is, the lower will be the rate of interest.[5] In special circumstances, however, the monied men may prefer to hold onto their money—if the government tries to reduce the legal rate of interest below the natural rate[6]—but Steuart did not think that this would be a frequent occurrence and made no attempt to develop a theory of liquidity preference.[7]

[1] *ibid* iii, pp. 160–161, p. 169.

[2] According to Steuart, the position of the loan of interest as a substitute for the purchase of landed property in Western Europe, was a result of the influence of the Jews "... who have always despised land-property .." (*ibid* iv, p. 322).

[3] *ibid* iii, p. 169.

[4] *ibid* iv, p. 321, iii pp. 228–229.

[5] *ibid* iii, p. 175, iv, p. 55.

[6] "... upon such an occasion, the monied interest (from a certainty of disappointing the intention of government in making the law) might form a concern among themselves to lock up the money, even though it should remain dead on their hands for a few months .." *ibid* iii, p. 171.

[7] In particular he gave little attention to the question whether it would be possible for the rate of interest to be reduced to zero. In one (perhaps unguarded) passage, however, he mentioned a situation in which "... stagnation would ... swell so fast ... that it would, in a manner, choak (sic) them, and in a little time interest would fall to nothing ..." (*ibid* iii p. 160).

Making use of this theoretical apparatus, Steuart turned to a consideration of interest-rate policy, particularly policy aimed at reducing the rate of interest.[1] The simplest expedient in this direction was, of course, the reduction of the legal rate of interest, but as we have already seen, few economists were prepared to give it their blessing; nor was Steuart,[2] but he argued that it might very well be effective. The condition for success was that it should be impossible to export capital.[3] Given that this was true, the result of a reduction of the legal rate below the market rate would, in the short run, be the transfer of capital from private loans to government securities, the purchase of land and an increase of hoarding,[4] all of which would have unpleasant social consequences.[5] In the long run, however, capital would move back to a more normal distribution as the effective rate earned on land and government securities was reduced and approached the new legal rate.[6] The crucial condition was the absence of capital exports, and as this had been satisfied in the Seventeenth Century,[7] Steuart had no doubt that Sir Josiah Child's proposals would, ultimately, have been effective. Immediately, however, the social dislocation and waste would have been considerable and for that reason Steuart rejected the manipulation of the maximum legal rate of interest as an instrument of economic policy.[8]

[1]Steuart had no doubt that low interest was a desirable policy objective " . . . low interest is the soul of trade; the most active principle for promoting industry, and the improvement of land; and a requisite, without which it is hardly possible that foreign commerce can long be supported" (*ibid* iii, p. 173, also iii, p. 166.)

[2]*ibid* iii, p. 167.

[3]*ibid* iii, p. 165, 169, 170–171.

[4]*ibid* iii, p. 165, 169. Hoarding would be temporary however.

[5]*ibid* iii, p. 170.

[6]This process would be hastened by the fact that landlords would take advantage of the high price of land to clear off part of their old debts by selling land, thus making loanable money " regorge " in the hands of the monied men. (*ibid* iii, p. 165).

[7]The only possible market for English capital was Holland where the rate of interest was much lower than in England. (*ibid* iii, p. 165).

[8]Once he had reduced the rate of interest by other means, however, he had no objection to an accommodating reduction of the legal rate. (*ibid* iii, p. 172).

The policy which Steuart recommended was to work more directly upon the demand and the supply of loanable money. On the demand side spendthrift borrowers and the government itself must be kept out of the loan market.[1] On the supply side, money must be made to " regorge " in the hands of the lenders—and to do this Steuart proposed that the government use the Sinking Fund for the purpose for which it was intended, the repayment of the capital of the National Debt.[2]

This however, was only one half of the policy. Once the unproductive borrowers had been excluded from the common loan market it was not his intention that they should be forgotten.

" In a country where trade and industry are little known . . . the demand for every article of consumption must be encouraged, in order to augment the supply. And . . . this demand for consumption should naturally come from landed men of property . . ."[3]

Now, in Steuart's view, when a landowner mortgages his property in a consumption loan, what he does is to exchange one kind of wealth for another and he pays interest ". . . because the one circulates like money, the other does not ".[4] If this operation were carried out in the common loan market, it would tend to have the adverse effect of raising interest. But why should it go through the loan market: why not allow the landowner to transmute his property (valued at the current market rate of interest) free of charge at a land bank ? [5] Thus interest would be regulated by the " demands of trade and the rate of it would not be disturbed by the competition of spendthrifts."[6]

The attractions of such a " Bank of Circulation upon Mortgage "[7] were greater than the reduction of interest which

[1] *ibid* iii, p. 167.
[2] *ibid* iii, p. 178, iv, pp. 54–55, p. 324. Steuart claimed that by this method, interest could be reduced to 2% in a few years.
[3] *ibid* iv, p. 332.
[4] *ibid* iii, p. 177.
[5] *ibid*.
[6] *ibid* iii, p. 178.
[7] *ibid* iii, p. 197. " . . . the great utility of banks of circulation upon mortgage is to facilitate the melting down of solid property; in order to enable every one who has property to circulate the capital of it . . . " (*ibid* iii, p. 285).

it would permit. It would enable proprietors to maintain a high level of consumption[1] and would thus be a means by which new circulating money could be injected into the system and the total supply of money kept " . . . at a due proportion to alienation . . . " (transactions).[2] Lack of credit and the proliferation of bad debts, both important factors tending to restrain the growth of economic enterprise, would disappear[3] and the major obstructions in the path of rapid economic development would be removed.[4]

Before these ideas are rejected out of hand, it is as well to consider the qualifications with which Steuart explicitly surrounded them. In the first place, the policy was suitable only when continuous expansion of production was possible[5] and before the spread of luxury had become sufficiently extensive to hurt the export trade by raising costs. It was the policy of the infant-stage of the economy. But when that stage was over and when increases of consumption demand no longer stimulated increased output but raised prices and costs, then the policy would have to be revised. " . . . domestic currency (must) be clogged . . . solid property (must) be rendered more unwieldy and entails may then become useful . . . "[6] Even in this phase however, there was no mention of controlling productive borrowing, and the reason may well be that Steuart did not consider it possible for a loan which would result in an increased output of goods to have a long-run inflationary effect.

In this way interest rate theory was fitted into Steuart's general theory of economic development. The importance of interest, however, should not be exaggerated: Steuart was much more interested in controlling the flows of consumers' demand and the circulation of money than in depressing the

[1] *ibid* iii, p. 217.
[2] *ibid* iii, p. 200 iv, p. 320.
[3] *ibid* ii, p. 59 iv, p. 329.
[4] An assertion which Steuart claimed was supported by the facts of the French economy at the time of John Law's Bank (*ibid* iii, p. 200) and the Eighteenth Century Scottish economy, the development of which was " entirely owing " to the activities of the Banks (*ibid* iii, p. 197).
[5] *ibid* ii, p. 65.
[6] *ibid* ii, p. 65. A legal prohibition of consumption borrowing was even considered.

rate of interest. On the purely technical level, his decision to view the rate of interest mainly as a phenomenon of the market for paper claims rather than a result of the flows of real savings and real investments is perhaps the most striking thing about his analysis and contrasts vividly with the well-known " flow " analysis of Hume and his intellectual successors. The limitations of his analysis are fairly clear. Because he was primarily concerned with the economics of an under-developed country, in which it was plausible to assume secular under-employment, he tended to neglect the importance of the saving of real resources in the process of economic development and hence, the influence of saving on the rate of interest. Because his theory of economic development lacked generality, his theory of interest also tended to be unbalanced. The fertility of some of Steuart's ideas is perhaps more obvious now than it was to his contemporaries ; nevertheless, it must be a cause for lament that they were so little heeded at the time when economist's ideas on the subject were crystallising. For this state of affairs, Adam Smith was not a little to blame.

3. The Major Synthesis : Adam Smith.

Except in a purely negative way, Adam Smith's thoughts on the rate of interest do not seem to have been influenced by his reading of Sir James Steuart. The publication of the Glasgow Lectures on Jurisprudence[1] and the discovery of a fragment of an early draft of the *Wealth of Nations*,[2] enables us to trace the evolution of Smith's thought with some certainty and it is clear that the final version of the *Wealth of Nations*[3] incorporated few, if any, of Steuart's ideas. Indeed in the *Wealth of Nations* those parts of the analysis of the *Lectures* which were most closely related to Steuart's approach were carefully excluded.

The *Lectures* contained two separate theories of interest which were nowhere synthetised. In the first place there was a

[1] *Lectures on Justice, Police, Revenue and Arms* (ed. E. Cannan, 1896).

[2] Printed in W. R. Scott, *Adam Smith as Student and Professor* (Glasgow), 1937.

[3] 1776, references are to the 1812 edition.

" real " theory which explained interest purely in terms of the offers of real resources and the demands for the use of them, independently of the monetary form in which the operation might be carried out.[1] The rate of accumulation of real resources was here the important factor.[2]

The second theory appeared in the course of a discussion of the National Debt when Smith was explaining why the price of securities was subject to fluctuations " . . . without any visible cause ?"[3] The gist of his argument was that these fluctuations were a result of changing market-expectations about the future rate of interest. When war is rumoured, bond-holders sell in order to be able to subscribe to the new loans which they feel sure the government will place on the market ; the present price declines as a result. Conversely, when it is thought that there will be no more new issues, the tendency is to buy now and as a result security prices rise.[4] On top of this simple expectational pattern, the stock-jobbing fraternity will be busily spreading rumours of victory or defeat according to their convenience,[5] merchants will be investing any surplus funds they may have only to withdraw them again when they are required for business purposes.[6] Consequently the price of securities[7] oscillates freely and quite independently of the government's real credit-worthiness. The analysis in this case was in terms of stocks of loanable funds and the strategy which determined their appearance and disappearance on the loan market.

Nowhere in the *Lectures* were the " monetary " and the "real" approaches to interest theory integrated ; in the *Wealth of Nations* the problem of the price of government securities and the " stock " approach were completely ignored.

[1] *op. cit* p. 220.

[2] Hence interest was high in the Middle Ages not because of a shortage of money but because of the obstacles which the feudal society placed in the way of accumulation. (*ibid*).

[3] *ibid*. p. 249. Smith rejected the view that the reason was fear of revolution and repudiation.

[4] *ibid*. pp. 249–250.

[5] *ibid*. pp. 251–252.

[6] *ibid*. p. 250.

[7] The arithmetical connection between the price of securities and the rate of interest had long been grasped. See Cantillon, *op. cit*. p. 323.

The truth of the matter is that so far as interest is concerned there is very little in the *Wealth of Nations* which is not restatement.[1] Hume's demolition of the argument that interest and the supply of money are functionally connected was accepted[2] and thereafter the analysis was concentrated on the phenomena of saving and borrowing,[3] emphasising that it is only by forgoing consumption that it is possible for lenders to transfer resources to borrowers.[4] Into this picture, the Banks which played such an important part in Steuart's analysis, entered incidentally as a minor capital saving device with no effect on the rate of interest—or any other important economic variable.[5]

This being so, one would expect a more elaborate analysis of the regulators of savings, but, in fact, this is not to be found. Saving was regarded as a natural phenomenon, particularly strong among merchants and in societies in which the merchant is respected,[6] to be explained as the consequence of " . . . the uniform, constant and uninterrupted effort of every man to better his condition . . . "[7] Hoarding was an eccentricity or the result of barbarous institutions[8] which could generally be disregarded.[9] But whether the supply of savings was or was not responsive to changes in the rate of interest, was a question which Smith did not discuss, except for the cryptic remark that " The creditor will not lend his money for less than the use of its worth . . ."[10] The most satisfactory interpretation which can be reached is that the quantum of saving was thought to be independent of the rate of interest but that no loans would

[1]This is the usual comment, *vide* E. v. Böhm-Bawerk, *Capital and Interest*, p. 70 et seq.

[2]*op. cit.* ii p. 39.

[3]Smith recognised the existence of productive and spendthrift borrowers (*ibid* ii, p. 33) and would maintain the usury laws to prevent the latter from forcing up the rate of interest and cornering the available supply of loans (*ibid* ii, p. 44).

[4]*ibid* ii, p. 14, p. 35.

[5]*ibid* i, p. 448, p. 483.

[6]*ibid* ii, p. 147.

[7]*ibid* i, p. 22.

[8]*ibid* i, pp. 421–422, iii, pp. 396–397.

[9]The National Debt, however, was thought to attract hoards which might otherwise have stayed out of circulation. (*ibid* iii, p. 402).

[10]*ibid* ii, pp. 43–44.

be made at appreciably[1] less than the current rate of profits earned on productive investments.[2]

It is not possible to say with any certainty why this change was made. On other occasions Adam Smith found it difficult to combine the accepted short-run theory of a monetary economy with his later speculations on the nature and causes of the progress of the wealth of nations,[3] and in this case he may have decided to solve his problems by omission. The full employment assumption of the *Wealth of Nations* seemed to lead Smith to the conclusion that monetary changes were surface phenomena, and that to explain the fundamental motions of the economy one must look to frugality and to the technical advantages of the investment that it would permit. In the 1760's, when Scotland was experiencing both an expansive monetary policy on the part of the banks and acute balance of payments difficulties,[4] such a theory doubtless had many attractions. But, as we have seen in our discussion of Hume's theory, it was not so easy to debar money from the centre of the stage, and although the Classical School followed Smith's lead in expounding a "real" theory of interest which became one of the corner-stones of orthodoxy, the development of the doctrine of "forced frugality," [5] showed that some economists, at least, were not convinced that it was logically satisfactory to exclude money so completely; in the Twentieth Century this view has led to a theory of interest which is more similar to that of Steuart than that of Smith.

Adam Smith's theory of the long-run trends of interest rates followed the ideas put forward by Hutcheson and Hume.

[1]The rate of interest will be somewhat less than the profit rate for the borrower will wish to insure himself against misadventure and loss. For the same reason, the rate of interest must always be somewhat greater than zero (*ibid* i, pp. 146–147).

[2]Smith thought that the current rate of interest was an accurate index of the rate of profits. (*ibid* i, pp. 134–135).

[3]See my paper "An Eighteenth Century Controversy in the Theory of Economic Progress," *Manchester School*, 1952.

[4]See H. Hamilton "Scotland's Balance of Payments Problem in 1762," *Economic History Review*, 2nd Series, Vol. V., No. 3, 1953.

[5]See F. A. Hayek, "A Note on the Development of the Doctrine of Forced Saving," reprinted in *Profits, Interest and Investment*, 1939.

Economic expansion, being the consequence of parsimony in consumption,[1] would lead to a natural increase in the importance of the " moneyed interest " and, hence, in the supply of loanable capital.[2] The profitability of investment would decline and with it the natural rate of interest[3] until, when a country had achieved its " full complement of riches " further accumulations would be exported.[4] Smith's long-range dynamic model was similar to that of Ricardo, but with this important difference, that unlike Ricardo, he never gave explicit support to the view that the progressive reduction of the rate of interest would tend to extinguish the supply of new loanable capital.[5]

This refusal to link the rate of real saving with the rate of interest is the outstanding feature of the interest theory of the Eighteenth Century. There can be little doubt that in omitting to notice such a relationship, the writers we have been considering in this paper, prevented themselves from erecting a model which would have been useful for the explanation of not only the determination of interest rates but the process of capital formation as well. The omission may have been due to lack of insight but it may also have been the result of their observation of the " under-developed " economy in which they lived. We have seen that instead of connecting saving with interest and profits, they connected it with the degree of preponderance of certain social classes (merchants and industrialists) who were thought to be imbued with an almost irrational propensity to accumulate. Such a theory can be condemned for failing to show how this " degree of preponderance " is affected by fluctuations in the rate of interest and profits, but it was not altogether superficial for them to point out the importance of such general social attitudes in the determination of the rate saving.

[1] *ibid* ii, p. 13.
[2] *ibid* ii, p. 37.
[3] *ibid* ii, p. 38. The doctrine of the falling rate of profits, however, was not consistent with the opinion expressed elsewhere that the productivity of labour would rise as the process of capital accumulation forced up the real wages of labour. See, Scott, *op. cit.* pp. 332–3, " Wealth of Nations " Book I. Chap. VIII.
[4] *ibid* i, p. 144.
[5] David Ricardo *Principles of Political Economy and Taxation* (Everyman Edition) pp. 71–72.

III.

It is not possible to conclude this survey with a concise summary of Eighteenth Century interest theory. The writers we have considered made no attempt to fuse the medley of ideas inherited from their predecessors into a closed logical system. They worked in a more wayward manner, each approaching the central problem from different points of view and making no attempt to develop a generally acceptable synthesis. If the best writings on interest theory of the Eighteenth Century are compared with the best of the Seventeenth Century, we find remarkably few ideas which are new. Yet there was certainly an advancement in understanding. At the end of the Eighteenth Century, it would have been impossible to consider interest as a fortuitous administrative arrangement or a semi-mystical phenomenon inexplicable by the usual methods of analysis. Rather interest was then seen to be a price to be discussed in terms of the demands and the supplies of individual persons ; and other exogenous factors were important only in so far as they influenced individuals and their market activities. If this was not new, it was now understood and generally accepted and the way was open for future writers to show how interest could be fitted into an explanation of the laws of economic motion.

Manchester. J. M. Low.

Economic Development with Unlimited Supplies of Labour

1. This essay is written in the classical tradition, making the classical assumption, and asking the classical question. The classics, from Smith to Marx, all assumed, or argued, that an unlimited supply of labour was available at subsistence wages. They then enquired how production grows through time. They found the answer in capital accumulation, which they explained in terms of their analysis of the distribution of income. Classical systems thus determined simultaneously income distribution and income growth, with the relative prices of commodities as a minor bye-product.

Interest in prices and in income distribution survived into the neo-classical era, but labour ceased to be unlimited in supply, and the formal model of economic analysis was no longer expected to explain the expansion of the system through time. These changes of assumption and of interest served well enough in the European parts of the world, where labour was indeed limited in supply, and where for the next half century it looked as if economic expansion could indeed be assumed to be automatic. On the other hand over the greater part of Asia labour is unlimited in supply, and economic expansion certainly cannot be taken for granted. Asia's problems, however, attracted very few economists during the neo-classical era (even the Asian economists themselves absorbed the assumptions and preoccupations of European economics) and hardly any progress has been made for nearly a century with the kind of economics which would throw light upon the problems of countries with surplus populations.

When Keynes's *General Theory* appeared, it was thought at first that this was the book which would illuminate the problems of countries with surplus labour, since it assumed an unlimited supply of labour at the current price, and also, in its final pages, made a few remarks on secular economic expansion. Further reflection, however, revealed that Keynes's

book assumed not only that labour is unlimited in supply, but also, and more fundamentally, that land and capital are unlimited in supply—more fundamentally both in the short run sense that once the monetary tap is turned the real limit to expansion is not physical resources but the limited supply of labour, and also in the long run sense that secular expansion is embarrassed not by a shortage but by a superfluity of saving. Given the Keynesian remedies the neo-classical system comes into its own again. Hence, from the point of view of countries with surplus labour, Keynesianism is only a footnote to neo-classicism—albeit a long, important and fascinating footnote. The student of such economies has therefore to work right back to the classical economists before he finds an analytical framework into which he can relevantly fit his problems.

The purpose of this essay is thus to see what can be made of the classical framework in solving problems of distribution, accumulation, and growth, first in a closed and then in an open economy. It is not primarily an essay in the history of economic doctrine, and will not therefore spend time on individual writers, enquiring what they meant, or assessing its validity or truth. Our purpose is rather to bring their framework up-to-date, in the light of modern knowledge, and to see how far it then helps us to understand the contemporary problems of large areas of the earth.

I. THE CLOSED ECONOMY.

2. We have to begin by elaborating the assumption of an unlimited supply of labour, and by establishing that it is a useful assumption. We are not arguing, let it be repeated, that this assumption should be made for all areas of the world. It is obviously not true of the United Kingdom, or of North West Europe. It is not true either of some of the countries usually now lumped together as under-developed ; for example there is an acute shortage of male labour in some parts of Africa and of Latin America. On the other hand it is obviously the relevant assumption for the economies of Egypt, of India, or of Jamaica. Our present task is not to supersede

neo-classical economics, but merely to elaborate a different framework for those countries which the neo-classical (and Keynesian) assumptions do not fit.

In the first place, an unlimited supply of labour may be said to exist in those countries where population is so large relatively to capital and natural resources, that there are large sectors of the economy where the marginal productivity of labour is negligible, zero, or even negative. Several writers have drawn attention to the existence of such "disguised" unemployment in the agricultural sector, demonstrating in each case that the family holding is so small that if some members of the family obtained other employment the remaining members could cultivate the holding just as well (of course they would have to work harder : the argument includes the proposition that they would be willing to work harder in these circumstances). The phenomenon is not, however, by any means confined to the countryside. Another large sector to which it applies is the whole range of casual jobs—the workers on the docks, the young men who rush forward asking to carry your bag as you appear, the jobbing gardener, and the like. These occupations usually have a multiple of the number they need, each of them earning very small sums from occasional employment ; frequently their number could be halved without reducing output in this sector. Petty retail trading is also exactly of this type ; it is enormously expanded in overpopulated economies ; each trader makes only a few sales ; markets are crowded with stalls, and if the number of stalls were greatly reduced the consumers would be no whit worse off—they might even be better off, since retail margins might fall. Twenty years ago one could not write these sentences without having to stop and explain why in these circumstances, the casual labourers do not bid their earnings down to zero, or why the farmers' product is not similarly all eaten up in rent, but these propositions present no terrors to contemporary economists.

A little more explanation has to be given of those cases where the workers are not self-employed, but are working for wages, since it is harder to believe that employers will pay

wages exceeding marginal productivity. The most important of these sectors is domestic service, which is usually even more inflated in over-populated countries than is petty trading (in Barbados 16 per cent. of the population is in domestic service). The reason is that in over-populated countries the code of ethical behaviour so shapes itself that it becomes good form for each person to offer as much employment as he can. The line between employees and dependents is very thinly drawn. Social prestige requires people to have servants, and the grand seigneur may have to keep a whole army of retainers who are really little more than a burden upon his purse. This is found not only in domestic service, but in every sector of employment. Most businesses in under-developed countries employ a large number of "messengers," whose contribution is almost negligible ; you see them sitting outside office doors, or hanging around in the courtyard. And even in the severest slump the agricultural or commercial employer is expected to keep his labour force somehow or other—it would be immoral to turn them out, for how would they eat, in countries where the only form of unemployment assistance is the charity of relatives ? So it comes about that even in the sectors where people are working for wages, and above all the domestic sector, marginal productivity may be negligible or even zero.

Whether marginal productivity is zero or negligible is not, however, of fundamental importance to our analysis. The price of labour, in these economies, is a wage at the subsistence level (we define this later). The supply of labour is therefore "unlimited" so long as the supply of labour at this price exceeds the demand. In this situation, new industries can be created, or old industries expanded without limit at the existing wage ; or, to put it more exactly, shortage of labour is no limit to the creation of new sources of employment. If we cease to ask whether the marginal productivity of labour is negligible and ask instead only the question from what sectors would additional labour be available if new industries were created offering employment at subsistence wages, the answer becomes even more comprehensive. For we have then not only the farmers, the casuals, the petty traders and the retainers

(domestic and commercial), but we have also three other classes from which to choose.

First of all, there are the wives and daughters of the household. The employment of women outside the household depends upon a great number of factors, religious and conventional, and is certainly not exclusively a matter of employment opportunities. There are, however, a number of countries where the current limit is for practical purposes only employment opportunities. This is true, for example, even inside the United Kingdom. The proportion of women gainfully employed in the U.K. varies enormously from one region to another according to employment opportunities for women. For example, in 1939 whereas there were 52 women gainfully employed for every 100 men in Lancashire, there were only 15 women gainfully employed for every 100 men in South Wales. Similarly in the Gold Coast, although there is an acute shortage of male labour, any industry which offered good employment to women would be besieged with applications. The transfer of women's work from the household to commercial employment is one of the most notable features of economic development. It is not by any means all gain, but the gain is substantial because most of the things which women otherwise do in the household can in fact be done much better or more cheaply outside, thanks to the large scale economies of specialisation, and also to the use of capital (grinding grain, fetching water from the river, making cloth, making clothes, cooking the midday meal, teaching children, nursing the sick, etc.). One of the surest ways of increasing the national income is therefore to create new sources of employment for women outside the home.

The second source of labour for expanding industries is the increase in the poulation resulting from the excess of births over deaths. This source is important in any dynamic analysis of how capital accumulation can occur, and employment can increase, without any increase in real wages. It was therefore a cornerstone of Ricardo's system. Strictly speaking, population increase is not relevant either to the classical analysis, or to the analysis which follows in this article, unless

it can be shown that the increase of population is caused by economic development and would not otherwise be so large. The proof of this proposition was supplied to the classical economists by the Malthusian law of population. There is already an enormous literature of the genus : "What Malthus *Really* Meant," into which we need not enter. Modern population theory has advanced a little by analysing separately the effects of economic development upon the birth rate, and its effects on the death rate. Of the former, we know little. There is no evidence that the birth rate ever rises with economic development. In Western Europe it has fallen during the last eighty years. We are not quite sure why ; we suspect that it was for reasons associated with development, and we hope that the same thing may happen in the rest of the world as development spreads. Of the death rate we are more certain. It comes down with development from around 40 to around 12 per thousand ; in the first stage because better communications and trade eliminate death from local famines ; in the second stage because better public health facilities banish the great epidemic diseases of plague, smallpox, cholera, malaria, yellow fever (and eventually tuberculosis) ; and in the third stage because widespread facilities for treating the sick snatch from the jaws of death many who would otherwise perish in infancy or in their prime. Because the effect of development on the death rate is so swift and certain, while its effect on the birth rate is unsure and retarded, we can say for certain that the immediate effect of economic development is to cause the population to grow ; after some decades it begins to grow (we hope) less rapidly. Hence in any society where the death rate is around 40 per thousand, the effect of economic development will be to generate an increase in the supply of labour.

Marx offered a third source of labour to add to the reserve army, namely the unemployment generated by increasing efficiency. Ricardo had admitted that the creation of machinery could reduce employment. Marx seized upon the argument, and in effect generalised it, for into the pit of unemployment he threw not only those displaced by machinery, but also the self-employed and petty capitalists who could not

compete with larger capitalists of increasing size, enjoying the benefits of the economies of scale. Nowadays we reject this argument on empirical grounds. It is clear that the effect of capital accumulation in the past has been to reduce the size of the reserve army, and not to increase it, so we have lost interest in arguments about what is "theoretically" possible.

When we take account of all the sources we have now listed—the farmers, the casuals, the petty traders, the retainers (domestic and commercial), women in the household, and population growth—it is clear enough that there can be in an over-populated economy an enormous expansion of new industries or new employment opportunities without any shortage of unskilled labour becoming apparent in the labour market. From the point of view of the effect of economic development on wages, the supply of labour is practically unlimited.

This applies only to unskilled labour. There may at any time be a shortage of skilled workers of any grade—ranging from masons, electricians or welders to engineers, biologists or administrators. Skilled labour may be the bottleneck in expansion, just like capital or land. Skilled labour, however, is only what Marshall might have called a "quasi-bottleneck," if he had not had so nice a sense of elegant language. For it is only a very temporary bottleneck, in the sense that if the capital is available for development, the capitalists or their government will soon provide the facilities for training more skilled people. The real bottlenecks to expansion are therefore capital and natural resources, and we can proceed on the assumption that so long as these are available the necessary skills will be provided as well, though perhaps with some time lag.

3. If unlimited labour is available, while capital is scarce, we know from the Law of Variable Proportions that the capital should not be spread thinly over all the labour. Only so much labour should be used with capital as will reduce the marginal productivity of labour to zero. In practice, however, labour is not available at a zero wage.

Capital will therefore be applied only up to the point where the marginal productivity of labour equals the current wage. This is illustrated in Figure I. The horizontal axis measures the quantity of labour, and the vertical axis its marginal product. There is a fixed amount of capital. OW is the current wage. If the marginal product of labour were zero outside the capitalist sector, OR ought to be employed. But it will pay to employ only OM in the capitalist sector. WNP is the capitalists' surplus. $OWPM$ goes in wages to workers in the capitalist sector, while workers outside this sector (*i.e.* beyond M) earn what they can in the subsistence sector of the economy.

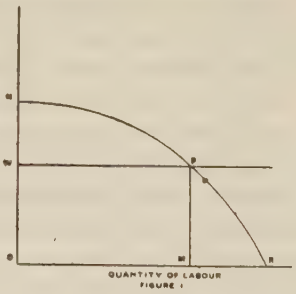


FIGURE I

The analysis requires further elaboration. In the first place, after what we have said earlier on about some employers in these economies keeping retainers, it may seem strange to be arguing now that labour will be employed up to the point where the wage equals the marginal productivity. Nevertheless, this is probably the right assumption to make when we are set upon analysing the expansion of the capitalist sector of the economy. For the type of capitalist who brings about economic expansion is not the same as the type of employer who treats his employees like retainers. He is more commercially minded, and more conscious of efficiency, cost and profitability. Hence, if our interest is in an expanding capitalist sector, the assumption of profit maximisation is probably a fair approximation to the truth.

Next, we note the use of the terms "capitalist" sector and "subsistence" sector. The capitalist sector is that part of the economy which uses reproducible capital, and pays capitalists for the use thereof. (This coincides with Smith's definition of the productive workers, who are those who work with capital and whose product can therefore be sold at a price above their wages). We can think, if we like, of capitalists hiring out their capital to peasants ; in which case, there being

by definition an unlimited number of peasants, only some will get capital, and these will have to pay for its use a price which leaves them only subsistence earnings. More usually, however, the use of capital is controlled by capitalists, who hire the services of labour. The classical analysis was therefore conducted on the assumption that capital was used for hiring people. It does not make any difference to the argument, and for convenience we will follow this usage. The subsistence sector is by difference all that part of the economy which is not using reproducible capital. Output per head is lower in this sector than in the capitalist sector, because it is not fructified by capital (this is why it was called "unproductive" ; the distinction between productive and unproductive had nothing to do with whether the work yielded utility, as some neo-classicists have scornfully but erroneously asserted). As more capital becomes available more workers can be drawn into the capitalist from the subsistence sector, and their output per head rises as they move from the one sector to the other.

Thirdly we take account of the fact that the capitalist sector, like the subsistence sector, can also be subdivided. What we have is not one island of expanding capitalist employment, surrounded by a vast sea of subsistence workers, but rather a number of such tiny islands. This is very typical of countries in their early stages of development. We find a few industries highly capitalised, such as mining or electric power, side by side with the most primitive techniques ; a few high class shops, surrounded by masses of old style traders ; a few highly capitalised plantations, surrounded by a sea of peasants. But we find the same contrasts also outside their economic life. There are one or two modern towns, with the finest architecture, water supplies, communications and the like, into which people drift from other towns and villages which might almost belong to another planet. There is the same contrast even between people ; between the few highly westernised, trousered, natives, educated in western universities, speaking western languages, and glorying in Beethoven, Mill, Marx or Einstein, and the great mass of their countrymen who live in quite other worlds.

Capital and new ideas are not thinly diffused throughout the economy ; they are highly concentrated at a number of points, from which they spread outwards.

Though the capitalised sector can be subdivided into islands, it remains a single sector because of the effect of competition in tending to equalise the earnings on capital. The competitive principle does not demand that the same amount of capital per person be employed on each "island," or that average profit per unit of capital be the same, but only that the marginal profit be the same. Thus, even if marginal profits were the same all round, islands which yield diminishing returns may be more profitable than others, the earliest capitalists having cornered the vantage points. But in any case marginal profits are not the same all round. In backward economies knowledge is one of the scarcest goods. Capitalists have experience of certain types of investment, say of trading or plantation agriculture, and not of other types, say of manufacturing, and they stick to what they know. So the economy is frequently lopsided in the sense that there is excessive investment in some parts and under-investment in others. Also, financial institutions are more highly developed for some purposes than for others—capital can be got cheaply for trade, but not for house building or for peasant agriculture, for instance. Even in a very highly developed economy the tendency for capital to flow evenly through the economy is very weak ; in a backward economy it hardly exists. Inevitably what one gets are very heavily developed patches of the economy, surrounded by economic darkness.

Next we must say something about the wage level. The wage which the expanding capitalist sector has to pay is determined by what people can earn outside that sector. The classical economists used to think of the wage as being determined by what is required for subsistence consumption, and this may be the right solution in some cases. However, in economies where the majority of the people are peasant farmers, working on their own land, we have a more objective index, for the minimum at which labour can be had is now set by the average product of the farmer ; men will not leave the

family farm to seek employment if the wage is worth less than they would be able to consume if they remained at home. This objective standard, alas, disappears again if the farmers have to pay rent, for their net earnings will then depend upon the amount of rent they have to pay, and in overpopulated countries the rent will probably be adjusted so as to leave them just enough for a conventional level of subsistence. It is not, however, of great importance to the argument whether earnings in the subsistence sector are determined objectively by the level of peasant productivity, or subjectively in terms of a conventional standard of living. Whatever the mechanism, the result is an unlimited supply of labour for which this is the minimum level of earnings.

The fact that the wage level in the capitalist sector depends upon earnings in the subsistence sector is sometimes of immense political importance, since its effect is that capitalists have a direct interest in holding down the productivity of the subsistence workers. Thus, the owners of plantations have no interest in seeing knowledge of new techniques or new seeds conveyed to the peasants, and if they are influential in the government, they will not be found using their influence to expand the facilities for agricultural extension. They will not support proposals for land settlement, and are often instead to be found engaged in turning the peasants off their lands. (Cf. Marx on "Primary Accumulation"). This is one of the worst features of imperialism, for instance. The imperialists invest capital and hire workers; it is to their advantage to keep wages low, and even in those cases where they do not actually go out of their way to impoverish the subsistence economy, they will at least very seldom be found doing anything to make it more productive. In actual fact the record of every imperial power in Africa in modern times is one of impoverishing the subsistence economy, either by taking away the people's land, or by demanding forced labour in the capitalist sector, or by imposing taxes to drive people to work for capitalist employers. Compared with what they have spent on providing facilities for European agriculture or mining, their expenditure on the improvement of African agriculture has been

negligible. The failure of imperialism to raise living standards is not wholly to be attributed to self interest, but there are many places where it can be traced directly to the effects of having imperial capital invested in agriculture or in mining.

Earnings in the subsistence sector set a floor to wages in the capitalist sector, but in practice wages have to be higher than this, and there is usually a gap of 30 per cent. or more between capitalist wages and subsistence earnings. This gap may be explained in several ways. Part of the difference is illusory, because of the higher cost of living in the capitalist sector. This may be due to the capitalist sector being concentrated in congested towns, so that rents and transport costs are higher. All the same, there is also usually a substantial difference in real wages. This may be required because of the psychological cost of transferring from the easy going way of life of the subsistence sector to the more regimented and urbanised environment of the capitalist sector. Or it may be a recognition of the fact that even the unskilled worker is of more use to the capitalist sector after he has been there for some time than is the raw recruit from the country. Or it may itself represent a difference in conventional standards, workers in the capitalist sector acquiring tastes and a social prestige which have conventionally to be recognised by higher real wages. That this last may be the explanation is suggested by cases where the capitalist workers organise themselves into trade unions and strive to protect or increase their differential. But the differential exists even where there are no unions.

The effect of this gap is shown diagrammatically in Figure II, which is drawn on the same basis as Figure I. *OS* now represents subsistence earnings, and *OW* the capitalist wage (real not money). To borrow an analogy from the sea, the frontier of competition between capitalist and subsistence labour now appears not as a beach but as a cliff.

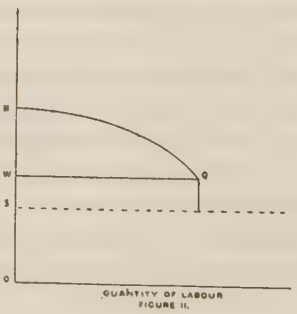


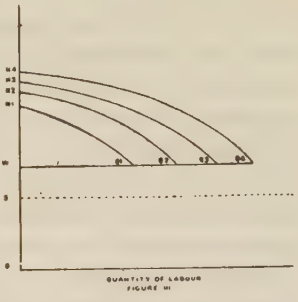
FIGURE II.

This phenomenon of a gap between the earnings of competing suppliers is found even in the most advanced economies. Much of the difference between the earnings of different classes of the population (grades of skill, of education, of responsibility or of prestige) can be described only in these terms. Neither is the phenomenon confined to labour. We know of course that two firms in a competitive market need not have the same average profits if one has some superiority to the other ; we reflect this difference in rents, and ask only that marginal rates of profit should be the same. We know also that marginal rates will not be the same if ignorance prevails—this point we have mentioned earlier. What is often puzzling in a competitive industry is to find a difference in marginal profits, or marginal costs, without ignorance, and yet without the more efficient firm driving its rivals out of business. It is as if the more efficient says : "I could compete with you, but I won't," which is also what subsistence labour says when it does not transfer to capitalist employment unless real wages are substantially higher. The more efficient firm, instead of competing wherever its real costs are marginally less than its rivals, establishes for itself superior standards of remuneration. It pays its workers more and lavishes welfare services, scholarships and pensions upon them. It demands a higher rate on its marginal investments ; where its competitors would be satisfied with 10%, it demands 20%, to keep up its average record. It goes in for prestige expenditure, contributing to hospitals, universities, flood relief and such. Its highest executives spend their time sitting on public committees, and have to have deputies to do their work. When all this is taken into account it is not at all surprising to find a competitive equilibrium in which high cost firms survive easily side by side with firms of much greater efficiency.

4. So far we have merely been setting the stage. Now the play begins. For we can now begin to trace the process of economic expansion.

The key to the process is the use which is made of the capitalist surplus. In so far as this is reinvested in creating

new capital, the capitalist sector expands, taking more people into capitalist employment out of the subsistence sector. The surplus is then larger still, capital formation is still greater, and so the process continues until the labour surplus disappears.



OS is as before average subsistence earnings, and *OW* the capitalist wage. WN_1Q_1 represents the surplus in the initial stage. Since some of this is reinvested, the amount of fixed capital increases. Hence the schedule of the marginal productivity of labour is now raised throughout, to the level of N_2Q_2. Both the surplus and capitalist employment are now larger. Further reinvestment raises the schedule of the marginal productivity of labour to N_3Q_3. And the process continues so long as there is surplus labour.

Various comments are needed in elaboration. First, as to the relationship between capital, technical progress, and productivity. In theory it should be possible to distinguish between the growth of capital and the growth of technical knowledge, but in practice it is neither possible nor necessary for this analysis. As a matter of statistical analysis, differentiating the effects of capital and of knowledge in any industry is straightforward if the product is homogeneous through time, if the physical inputs are also unchanged (in kind) and if the relative prices of the inputs have remained constant. But when we try to do it for any industry in practice we usually find that the product has changed, the inputs have changed and relative prices have changed, so that we get any number of indices of technical progress from the same data, according to the assumptions and the type of index number which we use. In any case, for the purpose of this analysis it is unnecessary to distinguish between capital formation and the growth of knowledge within the capitalist sector. Growth of technical knowledge outside the capitalist sector would be fundamentally important, since it would raise the level of wages, and so reduce the capitalist surplus. But

inside the capitalist sector knowledge and capital work in the same direction, to raise the surplus and to increase employment. They also work together. The application of new technical knowledge usually requires new investment, and whether the new knowledge is capital-saving (and thus equivalent to an increase in capital) or labour-saving (and thus equivalent to an increase in the marginal productivity of labour) makes no difference to our diagram. Capital and technical knowledge also work together in the sense that in economies where techniques are stagnant savings are not so readily applied to increasing productive capital ; in such economies it is more usual to use savings for building pyramids, churches, and other such durable consumer goods. Accordingly, in this analysis the growth of productive capital and the growth of technical knowledge are treated as a single phenomenon (just as we earlier decided that we could treat the growth of the supply of skilled labour and the growth of capital as a single phenomenon in long run analysis).

Next we must consider more closely the capitalist surplus. Malthus wanted to know what the capitalists would do with this ever-growing surplus ; surely this would be an embarrassing glut of commodities ? Ricardo replied that there would be no glut ; what the capitalists did not consume themselves, they would use for paying the wages of workers to create more fixed capital (this is a free interpretation, since the classical economists associated the expansion of employment with an increase of circulating rather than of fixed capital). This new fixed capital would then in the next stage make possible the employment of more people in the capitalist sector. Malthus persisted ; why should the capitalists produce more capital to produce a larger surplus which could only be used for producing still more capital and so *ad infinitum* ? To this Marx supplied one answer : capitalists have a passion for accumulating capital. Ricardo supplied another : if they don't want to accumulate, they will consume instead of saving ; provided there is no propensity to hoard, there will be no glut. Employment in the next stage will not be as big as it would have been if they had created more fixed capital and so brought more

workers into the capitalist sector, but so long as there is no hoarding it makes no difference to the current level of employment whether capitalists decide to consume or to save. Malthus then raised another question; suppose that the capitalists do save and invest without hoarding, surely the fact that capital is growing more rapidly than consumption must so lower the rate of profit on capital that there comes a point when they decide that it is not worth while to invest? This, Ricardo replied, is impossible; since the supply of labour is unlimited, you can always find employment for any amount of capital. This is absolutely correct, for his model; in the neo-classical model capital grows faster than labour, and so one has to ask whether the rate of profit will not fall, but in the classical model the unlimited supply of labour means that the capital/labour ratio, and therefore the rate of surplus, can be held constant for any quantity of capital (*i.e.*, unlimited "widening" is possible). The only fly in the ointment is that there may develop a shortage of natural resources, so that though the capitalists get any amount of labour at a constant wage, they have to pay ever rising rents to landlords. This was what worried Ricardo; it was important to him to distinguish that part of the surplus which goes to landlords from that part which goes to capitalists, since he believed that economic development inevitably increases the relative scarcity of land. We are not so certain of this as he was. Certainly development increases the rent of urban sites fantastically, but its effect on rural rents depends on the rate of technical progress in agriculture, which Malthus and Ricardo both gravely under-estimated. If we assume technical progress in agriculture, no hoarding, and unlimited labour at a constant wage, the rate of profit on capital cannot fall. On the contrary it must increase, since all the benefit of technical progress in the capitalist sector accrues to the capitalists.

Marx's interest in the surplus was ethical as well as scientific. He regarded it as robbery of the workers. His descendants are less certain of this. The surplus, after all, is only partly consumed; the other part is used for capital formation. As for the part which is consumed, some of it is

a genuine payment for service rendered—for managerial or entrepreneurial services, as well as for the services of public administrators, whether these are paid salaries out of taxes, or whether they live off their rents or *rentes* while performing unpaid public duties as magistrates, lord-lieutenants, or the like. Even in the U.S.S.R. all these functionaries are paid out of the surplus, and handsomely paid too. It is arguable that these services are over-paid ; this is why we have progressive taxation, and it is also one of the more dubious arguments for nationalisation (more dubious because the functionaries of public corporations have to be paid the market rate if the economy is only partially nationalised). But it is not arguable that all this part of the surplus (*i.e.* the part consumed) morally belongs to the workers, in any sense. As for the part which is used for capital formation, the experience of the U.S.S.R. is that this is increased, and not reduced, by transforming the ownership of capital. Expropriation deprives the capitalists of control over this part of the surplus, and of the right to consume this part at some later date, but it does nothing whatever to transfer this part of the surplus to the workers. Marx's emotional approach was a natural reaction to the classical writers, who sometimes in unguarded moments wrote as if the capitalist surplus and its increase were all that counted in the national income (c.f. Ricardo, who called it "the net revenue" of production). All this, however, is by the way ; for our present interest is not in ethical questions, but in how the model works.

5. The central problem in the theory of economic development is to understand the process by which a community which was previously saving and investing 4 or 5 per cent. of its national income or less, converts itself into an economy where voluntary saving is running at about 12 to 15 per cent. of national income or more. This is the central problem because the central fact of economic development is rapid capital accumulation (including knowledge and skills with capital). We cannot explain any "industrial" revolution (as the economic historians pretend to do) until we can explain why saving increased relatively to national income.

It is possible that the explanation is simply that some psychological change occurs which causes people to be more thrifty. This, however is not a plausible explanation. We are interested not in the people in general, but only say in the 10 per cent. of them with the largest incomes, who in countries with surplus labour receive up to 40 per cent. of the national income (nearer 30 per cent. in more developed countries). The remaining 90 per cent. of the people never manage to save a significant fraction of their incomes. The important question is why does the top 10 per cent. save more? The reason may be because they decide to consume less, but this reason does not square with the facts. There is no evidence of a fall in personal consumption by the top 10 per cent. at a time when industrial revolutions are occurring. It is also possible that, though they do not save any more, the top 10 per cent. spend less of their income on durable consumer goods (tombs, country houses, temples) and more on productive capital. Certainly, if one compares different civilisations this is a striking difference in the disposition of income. Civilisations in which there is a rapid growth of technical knowledge or expansion of other opportunities present more profitable outlets for investment than do technologically stagnant civilisations, and tempt capital into productive channels rather than into the building of monuments. But if one takes a country only over the course of the hundred years during which it undergoes a revolution in the rate of capital formation, there is no noticeable change in this regard. Certainly, judging by the novels, the top 10 per cent. in England were not spending noticeably less on durable consumer goods in 1800 than they were in 1700.

Much the most plausible explanation is that people save more because they have more to save. This is not to say merely that the national income per head is larger, since there is no clear evidence that the proportion of the national income saved increases with national income per head—at any rate our fragmentary evidence for the United Kingdom and for the United States suggests that this is not so. The explanation is much more likely to be that saving increases relatively to the national income because the incomes of the savers increase

relatively to the national income. The central fact of economic development is that the distribution of incomes is altered in favour of the saving class.

Practically all saving is done by people who receive profits or rents. Workers' savings are very small. The middle-classes save a little, but in practically every community the savings of the middle-classes out of their salaries are of little consequence for productive investment. Most members of the middle-class are engaged in the perpetual struggle to keep up with the Jones's ; if they manage to save enough to buy the house in which they live, they are doing well. They may save to educate their children, or to subsist in their old age, but this saving is virtually offset by the savings being used up for the same purposes. Insurance is the middle-class's favourite form of saving in modern societies, yet in the U.K., where the habit is extremely well developed, the annual net increase in insurance funds from all classes, rich, middle, and poor is less than 1½ per cent. of the national income. It is doubtful if the wage and salary classes ever anywhere save as much as 3 per cent. of the national income, net (possible exception : Japan). If we are interested in savings, we must concentrate attention upon profits and rents.

For our purpose it does not matter whether profits are distributed or undistributed ; the major source of savings is profits, and if we find that savings are increasing as a proportion of the national income, we may take it for granted that this is because the share of profits in the national income is increasing. (As a refinement, for highly taxed communities, we should say profits net of taxes upon profits, whether personal income or corporate taxes). Our problem then becomes what are the circumstances in which the share of profits in the national income increases ?

The modified classical model which we are using here has the virtue of answering the question. In the beginning, the national income consists almost entirely of subsistence income. Abstracting from population growth and assuming that the marginal product of labour is zero, this subsistence income remains constant throughout the expansion, since by definition

labour can be yielded up to the expanding capitalist sector without reducing subsistence output. The process therefore increases the capitalist surplus and the income of capitalist employees, taken together, as a proportion of the national income. It is possible to imagine conditions in which the surplus nevertheless does not increase relatively to national income. This requires that capitalist employment should expand relatively much faster than the surplus, so that within the capitalist sector gross margins or profit plus rent are falling sharply relatively to wages. We know that this does not happen. Even if gross margins were constant, profits in our model would be increasing relatively to national income. But gross margins are not likely to be constant in our model, which assumes that practically the whole benefit of capital accumulation and of technical progress goes into the surplus ; because real wages are constant, all that the workers get out of the expansion is that more of them are employed at a wage above the subsistence earnings. The model says, in effect, that if unlimited supplies of labour are available at a constant real wage, and if any part of profits is reinvested in productive capacity, profits will grow continuously relatively to the national income, and capital formation will also grow relatively to the national income.

The model also covers the case of a technical revolution. Some historians have suggested that the capital for the British Industrial Revolution came out of profits made possible by a spate of inventions occurring together. This is extremely hard to fit into the neo-classical model, since it involves the assumption that these inventions raised the marginal productivity of capital more than they raised the marginal productivity of labour, a proposition which it is hard to establish in any economy where labour is scarce. (If we do not make this assumption, other incomes rise just as fast as profits, and investment does not increase relatively to national income). On the other hand the suggestion fits beautifully into the modified classical model, since in this model practically the whole benefit of inventions goes into the surplus, and becomes available for further capital accumulation.

This model also helps us to face squarely the nature of the economic problem of backward countries If we ask "why do they save so little, the truthful answer is not "because they are so poor," as we might be tempted to conclude from the path-breaking and praiseworthy correlations of Mr. Colin Clark. The truthful answer is "because their capitalist sector is so small" (remembering that "capitalist" here does not mean private capitalist, but would apply equally to state capitalist). If they had a larger capitalist sector, profits would be a greater part of their national income, and saving and investment would also be relatively larger. (The state capitalist can accumulate capital even faster than the private capitalist, since he can use for the purpose not only the profits of the capitalist sector, but also what he can force or tax out of the subsistence sector).

Another point which we must note is that though the increase of the capitalist sector involves an increase in the inequality of incomes, as between capitalists and the rest, mere inequality of income is not enough to ensure a high level of saving. In point of fact the inequality of income is *greater* in over-populated under-developed countries than it is in advanced industrial nations, for the simple reason that agricultural rents are so high in the former. Eighteenth century British economists took it for granted that the landlord class is given to prodigal consumption rather than to productive investment, and this is certainly true of landlords in under-developed countries. Hence, given two countries of equal incomes, in which distribution is more unequal in one than in the other, savings may be greater where distribution is more equal if profits are higher relatively to rents. It is the inequality which goes with profits that favours capital formation, and not the inequality which goes with rents. Correspondingly, it is very hard to argue that these countries cannot afford to save more, when 40 per cent. or so of the national income is going to the top 10 per cent., and so much of rent incomes is squandered.

Behind this analysis also lies the sociological problem of the emergence of a capitalist class, that is to say of a group of

men who think in terms of investing capital productively. The dominant classes in backward economies—landlords, traders moneylenders, priests, soldiers, princes—do not normally think in these terms. What causes a society to grow a capitalist class is a very difficult question, to which probably, there is no general answer. Most countries seem to begin by importing their capitalists from abroad; and in these days many (*e.g.* U.S.S.R., India) are growing a class of state capitalists who, for political reasons of one sort or another, are determined to create capital rapidly on public account. As for indigenous private capitalists, their emergence is probably bound up with the emergence of new opportunities, especially something that widens the market, associated with some new technique which greatly increases the productivity of labour if labour and capital are used together. Once a capitalist sector has emerged, it is only a matter of time before it becomes sizeable. If very little technical progress is occurring, the surplus will grow only slowly. But if for one reason or another the opportunities for using capital productivity increase rapidly, the surplus will also grow rapidly, and the capitalist class with it.

6. In our model so far capital is created only out of profits earned. In the real world, however, capitalists also create capital as a result of a net increase in the supply of money—especially bank credit. We have now also to take account of this.

In the neo-classical model capital can be created only by withdrawing resources from producing consumer goods. In our model, however, there is surplus labour, and if (as we shall assume) its marginal productivity is zero, and if, also, capital can be created by labour without withdrawing scarce land and capital from other uses, then capital can be created without reducing the output of consumer goods. This second proviso is important, since if we need capital or land to make capital the results in our model are the same as the results in the neo-classical model, despite the fact that there is surplus labour. However, in practice the proviso is often fulfilled. Food cannot be grown without land, but roads, viaducts,

irrigation channels and buildings can be created by human labour with hardly any capital to speak of—witness the Pyramids, or the marvellous railway tunnels built in the mid-nineteenth century almost with bare hands. Even in modern industrial countries constructional activity, which lends itself to hand labour, is as much as 50 or 60 per cent. of gross fixed investment, so it is not difficult to think of labour creating capital without using any but the simplest tools. The classical economists were not wrong in thinking of lack of circulating capital as being a more serious obstacle to expansion in their world than lack of fixed capital. In the analysis which follows in this section we assume that surplus labour cannot be used to make consumer goods without using up more land or capital, but can be used to make capital goods without using any scarce factors.

If a community is short of capital, and has idle resources which can be set to creating capital, it seems very desirable on the face of the matter that this should be done, even if it means creating extra money to finance the extra employment. There is no loss of other output while the new capital is being made, and when it comes into use it will raise output and employment in just the same way as would capital financed not by credit creation but out of profits. The difference between profit-financed and credit-financed capital is not in the ultimate effects on output, but in the immediate effects on prices and on the distribution of income

Before we come to the effects on prices, however, we should pause a moment to notice what happens to the output of consumer goods in this model and the others while credit-financed capital is being created, but before it begins to be used. In the neo-classical model an increase in capital formation has to be accompanied by a corresponding fall in the output of consumer goods, since scarce resources can do one or the other. In the Keynesian model an increase in capital formation also increases the output of consumer goods, and if the multiplier exceeds 2, the output of consumer goods increases even more than capital formation. In our model capital formation goes up, but the output of consumer goods is not immediately affected. This is

one of those crucial cases where it is important to be certain that one is using the right model when it comes to giving advice on economic policy.

In our model, if surplus labour is put to capital formation and paid out of new money, prices rise, because the stream of money purchases is swollen while the output of consumer goods is for the time being constant. What is happening is that the fixed amount of consumer goods is being redistributed, towards the workers newly employed, away from the rest of the community (this is where the lack of circulating capital comes into the picture). This process is not "forced saving" in the useful sense of that term. In the neo-classical model the output of consumer goods is reduced, forcing the community as a whole to save. In our model, however, consumer goods output is not at any time reduced ; there is a forced redistribution of consumption, but not forced saving. And, of course, as soon as the capital goods begin to yield output, consumption begins to rise.

This inflationary process does not go on forever ; it comes to an end when voluntary savings increase to a level where they are equal to the inflated level of investment. Since savings are a function of profits, this means that the inflation continues until profits increase so much relatively to the national income that capitalists can now finance the higher rate of investment out of their profits without any further recourse to monetary expansion. Essentially equilibrium is secured by raising the ratio of profits to the national income. The equilibrator need not however be profits ; it might equally be government receipts, if there is a structure of taxes such that the ratio of government receipts to the national income rises automatically as the national income rises. This seems to be just about what happened in the U.S.S.R. In the crucial years when the economy was being transformed from a 5 per cent. to a (probably) 20 per cent. net saver, there was a tremendous inflation of prices (apparently prices rose about 700 per cent. in a decade), but the inflationary profits largely went to the government in the form of turnover tax, and by the end of the decade a new equilibrium was in sight.

It is not, however, always a simple matter to raise profits relatively to national income simply by turning on the monetary tap. The simplest and most extreme model of an inflation would be to assume that when the capitalists finance capital formation by creating credit, the money all comes back to them in the very next round in the form of an increase in their profits. In such a model profits, voluntary savings and capital formation can be raised to any desired level in a very short time, with only a small increase in prices. Something like this may well apply in the U.S.S.R. In real terms, however, this implies that there has been a fall in the share of the national income received by other people, including a fall in their real consumption, since they have had to release consumer goods for the previously unemployed who are now engaged in capital formation. It may be the farmers who are worse off, this showing itself in the prices of manufactures rising relatively to farm prices. Or it may be the workers in the capitalist sector who are worse off, because farm prices and the prices of manufactures rise faster than their wages. Or the blow may be falling upon salaried workers, pensioners, landlords or creditors. Now in the real world none of these classes will take this lying down. In the U.S.S.R., where the intention was that the capital formation should be at the expense of the farmers, it led in the end to organised violence on both sides. In our model it is hard to get away with it at the expense of the workers, since the wage in the capitalist sector must stand at a certain minimum level above subsistence earnings if labour is to be available. Generally, what happens as prices rise is that new contracts have to be made to take account of rising price levels. Some classes get caught, but only temporarily.

Now, if one pursued this argument logically, it would lead to the conclusion that equilibrium could never be reached—at any rate, so long as the banking system is content to supply all "legitimate" demands for money. If none of the other classes can be soaked, it seems impossible for profits to rise relatively to the national income for more than a temporary space, and it therefore seems impossible to reach an equilibrium level of savings equal to the new level of investment. The

inflation, once begun goes on forever. This, however, is not possible for another reason, namely the fact that the real national income is not fixed, but rising, as a result of the capital formation. Therefore all that is required is that capitalists' real incomes rise faster than other people's. Beyond the first year or two, when the additional consumer goods begin to appear, it is not necessary for any class to reduce its consumption. By the time the process of recontracting has begun, output has also begun to rise, and it is therefore possible to reach a *modus vivendi*.

We can give an exact description of this equilibrium in our modified classical model. In this model the average subsistence real income is given, and so also therefore is the real wage in the capitalist sector. It is not possible, by inflation or otherwise, to reach a new equilibrium in which the capitalist surplus has increased at the expense of either of these. If, therefore, the capitalists begin to finance capital formation out of credit, they lower the real incomes of the others only temporarily. Wages would then be chasing prices continuously but for the fact that, since output is growing all the time, profits are growing all the time. Hence the part of the investment which is financed out of credit is diminishing all the time, until equilibrium is reached. For example, suppose that an investment of £100 a year yields £20 a year profit, of which £10 a year is saved. Then, if capitalists invest an extra £100 a year, all of which in the first year is financed out of credit, by the eleventh year profits will be £200 a year greater, savings will be £100 a year greater and there will be no further monetary pressure on prices. All that will remain from the episode is that there will be £1,000 more useful productive capital at work than there would have if the credit creation had not taken place.

Thus we have two simple models marking the extreme cases. In the first, all the credit created comes back to the capitalists at once as profits (or to the state capitalist as taxes). Equilibrium is then reached easily, with the capitalists gaining at the expense of all others. In the other model the capitalists can only gain temporarily; equilibrium then takes much longer to reach, but it is reached eventually. In the first case

we need only an expansion of money income ; but in the second case it is the expansion of real income which eventually brings the capitalists the required proportion of the national income.

The fact that capital formation increases real output must also be borne in mind in the analysis of the effects of credit creation upon prices. The inflations which loom most in our minds are those which occur in war-time, when resources are being withdrawn from producing consumer goods. If the supply of money is increasing while the output of goods is falling, anything can happen to prices. Inflation for the purpose of capital formation, however, is a very different kettle of fish. For it results in increasing consumer goods output, and this results in falling prices if the quantity of money is held constant.

Perhaps it may be as well to illustrate a simple case. Suppose that £100 is invested every year, in the first instance by creating credit, and that each investment yields £30 a year in its second year and after. Suppose that it costs nothing to reap the yield ; the price of £30 charged for the product being pure rent derived from its scarcity (investment in an irrigation works is a nearly perfect illustration). Then, if we use the Keynesian formula for a demand inflation, and assume the multiplier to be 2, money income will rise to an equilibrium level of + £200 a year. Output, however, will begin to increase by + £30 a year from the second year onward. By the eighth year output will have increased by + £210, while money income will have increased only by slightly less than + £200. Thereafter prices will be below the initial level, and will fall continuously. The alleged precision of this analysis is of course subject to all the usual objections against applying multiplier analysis to inflationary conditions, namely the instability of the propensity to consume, the effect of secondary investment, and the dangers of cost inflation. But though the precision is spurious, the result is nevertheless real. Inflation for purposes of capital formation is self-destructive. Prices begin to rise, but are sooner or later overtaken by rising output, and may, in the last state end up lower than they were at the beginning.

We may now sum up this section. Capital formation is financed not only out of profits but also out of an expansion of credit. This speeds up the growth of capital, and the growth of real income. It also results in some redistribution of the national income, either temporarily or permanently, according to the assumptions one makes—in the model we are using, the redistribution is only temporary. It also prevents prices from falling, as they otherwise would (if money is constant and output rising), and it may drive prices up substantially if (as in our model) the distribution of income cannot be altered permanently by monetary measures, since prices will then continue to rise until real output has risen enough to effect the required redistribution. Thereafter prices fall further, since inflation raises prices while capital is being created, but the increased output which then results brings them down again.

One point remains. We have seen that if new money is used to finance capital formation the rise of prices eventually peters out, as savings grow into equilibrium with investment ; and reverses itself, as the output of consumer goods begins to pour out. The new equilibrium, however, may take a long time to reach, and if also the flow of new money is substantial the resulting rise of prices may strike fear into the hearts of the public. People do not panic if prices rise for two or three years ; but after that they may begin to lose confidence in money, and it may become necessary to call a drastic halt. This is the most important practical limitation on the extent to which capital formation can be financed in this way. This is why the banking authorities have always tended to alternate short periods of easy credit with sharp periods of restriction. Bank credit moves three steps up and one step down instead of moving up continuously. This also brings us to the threshold of the trade cycle. If capital were financed exclusively out of profits, and if there were also no hoarding, capital formation would proceed steadily. It is mainly the existence of an elastic credit system which makes the trade cycle an integral part of the mechanism of economic development in an unplanned economy. It is not necessary, however, for us to enter into analysis of the cycle since in this respect the model

we are using does not yield results different from those of other models.

7. We have said very little so far about the activities of government, since our basic model uses only capitalists, their employees, and subsistence producers. Governments affect the process of capital accumulation in many ways, however, and not least by the inflations into which they run. Many governments in backward countries are also currently anxious to use surplus man-power for capital formation, and as there is a great deal that can be done with labour and a few tools (roads, irrigation, river walls, schools and so on), it is useful to say something on the subject. We shall therefore in this section analyse the effect of inflation-financed government formation of capital, and thereby also give ourselves the chance to recapitulate the analysis of the previous section.

The results, it will be remembered, lie within two extremes. At one extreme all the money spent by the government comes back to it in taxes, and this is accepted by all classes. In this case, prices rise very little. At the other extreme, all classes refuse to accept a redistribution between themselves and the government. In this case prices tend to rise continuously, except that rising output (as a result of the capital formed) sooner or later catches up with prices and brings them down again. Rising output will also increase the government's "normal" share of the national income, and all monetary pressure will cease when the "normal" share has risen to the level of the inflated share which it was trying to get.

These results give us the questions we must ask: (1). What part of marginal income returns automatically to the government? (2). What effect does inflation have upon the various classes? And (3). What effect has government capital formation upon output?

(One other point must be remembered. In all this analysis so far we have assumed a closed economy. In an open economy inflation plays havoc with the balance of payments. We have therefore to assume that the government has strict control over

foreign transactions. This assumption holds for some backward economies ; others would get into an awful mess if they launched upon inflationary finance).

It is not possible that all the money spent by the government should come back to it in the first round, since this would presume that the government took 100 per cent. of marginal income. If the government takes any part of marginal income, some of the money will come back to it ; but even the Keynesian multiplier will not bring it all back unless taxation is the only leakage (*i.e.* there is no saving). The larger the government's share of marginal incomes, the more it will get back, the quicker it will get it, and the smaller will be the effect on prices.

Since the second world war a number of governments of modern industrial states seem to be taking around 40 to 50 per cent. of marginal incomes in taxation, and this is one of the major reasons why their price levels have not risen more, despite heavy pressure on resources for capital formation, defence, etc. In backward countries, however, governments take only a very small part of marginal incomes. The best placed governments from this point of view are those in countries where output is concentrated in a few large units (mines, plantations) and therefore easily taxed, or where foreign trade is a large part of the national income, and is thus easily reached by import and export duties. One of the worst off is India, with a large part of its output produced by subsistence producers and small scale units, hard to reach, and with less than ten per cent. of national income passing in foreign trade. In many cases, marginal taxation is less than average taxation, for when money incomes rise, the government continues to charge the same prices for railway travel or for stamps, and hesitates to raise land taxes on the peasants, with the result that money incomes rise faster than government receipts. No government should consider deficit financing without assuring itself that a large part of increases in money income will automatically come back to itself. By contrast, the U.S.S.R., with its very high rate of turnover tax, automatically mops up surplus funds injected into the system,

before they are able to generate much demand inflation *via* the multiplier process.

The next question is the effect of inflation upon the distribution of income. The surplus money raises prices, some more than others. The government will probably try to prevent prices from rising, but will succeed better with some than with others. It is easy to apply price control to large scale enterprises, but very hard to prevent the farmers from raising food prices, or the petty traders from making big margins. From the point of view of capital formation, the best thing that can happen is for the surplus money to roll into the pockets of people who will reinvest it productively. The merchant classes would probably use it mainly for speculation in those commodities that are getting scarce. The middle-classes would mainly buy big American cars with it, or go on trips to Europe, wangling the foreign exchange somehow. The peasants ought to use it to improve their farms, but probably most would use it only to pay off debt, or to buy more land. There is really only one class that is pretty certain to reinvest its profits productively, and that is the class of industrialists. The effects of an inflation on secondary capital formation therefore depend first on how large the industrial class is, and secondly on whether the benefit goes largely to this class. In countries which have only a small industrial class, inflation leads mainly to speculation in commodities and in land, and to the hoarding of foreign exchange. But in any country which has a substantial industrialist class, with the passion this class has for ruling over bigger and better factories, even the most frightening inflations (*e.g.* Germany from 1919) leave behind a substantial increase in capital formation. (Have we hit here upon some deep psychological instinct which drives the industrialist to use his wealth more creatively than others? Probably not. It is just that his job is of the kind where passion for success results in capital formation. The peasant farmer wants to have more land, not more capital on his land (unless he is a modern capitalist farmer) so his passion is dissipated merely in changes in the price and distribution of land. The merchant wants to have a wider margin, or a quicker turnover, neither of which

increases fixed capital. The banker wants more deposits. Only the industralist's passion drives towards using profits to create a bigger empire of bricks and steel). It follows that it is in industrial communities that inflations are most helpful to capital formation ; whereas in countries where the industrial class is negligible there is nothing to show for the inflation when it is over, except the original investment which started it off. We should also note that many governments do not like the fact that inflation enables industrialists to earn the extra profits with which they create fixed capital, since this results in an increase of private fortunes. They therefore do all they can to prevent the inflation from increasing the profits of industrialists. More especially, they clamp down on industrial prices, which are also from the administrative point of view the easiest prices to control. Since it is the industrialist class which saves most, the result is to exacerbate the inflation. It would be much sounder to pursue policies which would result in the profits of industrialists rising more rapidly than other incomes, and then to tax these profits away, either immediately, or at death.

Inflation continues to be generated so long as the community is not willing to hold an amount equal to the increased investment expenditure. It is not therefore enough that savings should increase to this extent, for if these savings are used for additional investment the initial gap still remains. The gap is closed only if the savings are hoarded, or used to buy government bonds, so that the government can now finance its investments by borrowing, instead of by creating new money. Hence in practice, if the government wishes the inflation to be ended without reducing its investment, it must find means of bringing into its coffers as much in taxes or in loans as it is spending. If it is failing to do this, the inflation will continue ; it is then better that it should continue because capitalists are spending their profits on further capital formation than because other classes are chasing a limited output of consumer goods; but if it is desired to end inflation as soon as possible, all classes should be encouraged to invest in government bonds rather than to spend in other ways.

Finally we come to the relation between capital and output. If the intention is to finance capital formation by creating credit, the best objects for such a policy are those which yield a large income quickly. To finance school building by creating credit is asking for trouble. On the other hand, there are a lot of agricultural programmes (water supplies, fertilisers, seed farms, extension) where quick and substantial results may be expected from modest expenditure. If there are idle resources available for capital formation it is foolish not to use them simply because of technical or political difficulties in raising taxes. But it would be equally foolish to use them on programmes which take a long time to give a small result, when there are others which could give a large result quickly.

We may sum up as follows. If labour is abundant and physical resources scarce, the primary effect on output is exactly the same whether the government creates capital out of taxation or out of credit creation : the output of consumer goods is unchanged, but is redistributed. Hence credit creation must be seen primarily as an alternative to taxation, which is worth the troubles it brings only if trying to raise taxes would bring even more troubles. Credit creation has however one further lead upon taxation in that if it also redistributes income towards the industrial class (if there is an industrial class), it will speed up capital formation out of profits. If it is impossible to increase taxation, and the alternative is between creating capital out of credit, and not creating it at all, the choice one has then to make is between stable prices or rising output. There is no simple formula for making this choice. In some communities any further inflation of prices would ruin their fragile social or political equilibrium ; in others this equilibrium will be destroyed if there is not a sharp increase in output in the near future ; and in still others the equilibrium will be ruined either way.

8. We may now resume our analysis. We have seen that if unlimited labour is available at a constant real wage, the capitalist surplus will rise continuously, and annual investment will be a rising proportion of the national income. Needless to say, this cannot go on forever.

The process must stop when capital accumulation has caught up with population, so that there is no longer surplus labour. But it may stop before that. It may stop of course for any number of reasons which are outside our system of analysis, ranging from earthquake or bubonic plague to social revolution. But it may also stop for the economic reason that, although there is a labour surplus, real wages may nevertheless rise so high as to reduce capitalists' profits to the level at which profits are all consumed and there is no net investment.

This may happen for one of four reasons. First, if capital accumulation is proceeding faster than population growth, and is therefore reducing absolutely the number of people in the subsistence sector, the average product per man in that sector rises automatically, not because production alters, but because there are fewer mouths to share the product. After a while the change actually becomes noticeable, and the capitalist wage begins to be forced up. Secondly, the increase in the size of the capitalist sector relatively to the subsistence sector may turn the terms of trade against the capitalist sector (if they are producing different things) and so force the capitalists to pay workers a higher percentage of their product, in order to keep their real income constant. Thirdly, the subsistence sector may also become more productive in the technical sense. For example, it may begin to imitate the techniques of the capitalist sector; the peasants may get hold of some of the new seeds, or hear about the new fertilisers or rotations. They may also benefit directly from some of the capitalist investments, *e.g.*, in irrigation works, in transport facilities, or in electricity. Anything which raises the productivity of the subsistence sector (average per person) will raise real wages in the capitalist sector, and will therefore reduce the capitalist surplus and the rate of capital accumulation, unless it at the same time more than correspondingly moves the terms of trade against the subsistence sector. Alternatively, even if the productivity of the capitalist sector is unchanged, the workers in the capitalist sector may imitate the capitalist way of life, and may thus need more to live on. The subsistence level is only a conventional idea, and conventions change. The effect of this

would be to widen the gap between earnings in the subsistence sector, and wages in the capitalist sector. This is hard to do, if labour is abundant, but it may be achieved by a combination of trade union pressure and capitalist conscience. If it is achieved, it will reduce the capitalist surplus, and also the rate of capital accumulation.

The most interesting of these possibilities is that the terms of trade may move against the capitalist sector. This assumes that the capitalist and subsistence sectors are producing different things. In practice this is a question of the relationship between industry and agriculture. If the capitalists are investing in plantation agriculture side by side with their investment in industry, we can think of the capitalist sector as self-contained. The expansion of this sector does not then generate any demand for anything produced in the subsistence sector, and there are therefore no terms of trade to upset the picture we have drawn. To bring the terms of trade in, the simplest assumption to make is that the subsistence sector consists of peasants producing food, while the capitalist sector produces everything else.

Now if the capitalist sector produces no food, its expansion increases the demand for food, raises the price of food in terms of capitalist products, and so reduces profits. This is one of the senses in which industrialisation is dependent upon agricultural improvement ; it is not profitable to produce a growing volume of manufactures unless agricultural production is growing simultaneously. This is also why industrial and agrarian revolutions always go together, and why economies in which agriculture is stagnant do not show industrial development. Hence, if we postulate that the capitalist sector is not producing food, we must either postulate that the subsistence sector is increasing its output, or else conclude that the expansion of the capitalist sector will be brought to an end through adverse terms of trade eating into profits. (Ricardo's problem of increasing rents is first cousin to this conclusion ; he worried about rents increasing *inside* the capitalist sector, whereas we are dealing with rents *outside* the sector).

On the other hand, if we assume that the subsistence sector is producing more food, while we escape the Scylla of adverse terms of trade we may be caught by the Charybdis of real wages rising because the subsistence sector is more productive. We escape both Scylla and Charybdis if rising productivity in the subsistence sector is more than offset by improving terms of trade. However, if the subsistence sector is producing food, the elasticity of demand for which is less than unity, increases in productivity will be more than offset by reductions in price. A rise in the productivity of the subsistence sector hurts the capitalist sector if there is no trade between the two, or if the demand of the capitalist sector for the subsistence sector's product is elastic. On the assumptions we have made, a rise in food productivity benefits the capitalist sector. Nevertheless, when we take rising demand into account, it is not at all unlikely that the price of food will not fall as fast as productivity increases, and this will force the capitalists to pay out a larger part of their product as wages.

If there is no hope of prices falling as fast as productivity increases (because demand is increasing), the capitalists' next best move is to prevent the farmer from getting all his extra production. In Japan this was achieved by raising rents against the farmers, and by taxing them more heavily, so that a large part of the rapid increase in productivity which occurred (between 1880 and 1910 it doubled) was taken away from the farmers and used for capital formation ; at the same time the holding down of the farmers' income itself held down wages, to the advantage of profits in the capitalist sector. Much the same happened in the U.S.S.R., where farm incomes per head were held down, in spite of farm mechanisation and the considerable release of labour to the towns ; this was done jointly by raising the prices of manufactures relatively to farm products, and also by levying heavy taxes upon the collective farms.

This also defines for us the case in which it is true to say that it is agriculture which finances industrialisation. If the capitalist sector is self-contained, its expansion is in no way dependent upon the peasants. The surplus is wholly "at the

expense" of the workers in the capitalist sector. But if the capitalist sector depends upon the peasants for food, it is essential to get the peasants to produce more, while if at the same time they can be prevented from enjoying the full fruit of their extra production, wages can be reduced relatively to the capitalist surplus. By contrast a state which is ruled by peasants may be happy and prosperous, but it is not likely to show such a rapid accumulation of capital. (*E.g.*, will China and the U.S.S.R. diverge in this respect ?).

We conclude, therefore, that the expansion of the capitalist sector may be stopped because the price of subsistence goods rises, or because the price is not falling as fast as subsistence productivity per head is rising, or because capitalist workers raise their standard of what they need for subsistence. Any of these would raise wages relatively to the surplus. If none of these processes is enough to stop capital accumulation, the capitalist sector will continue to expand until there is no surplus labour left. This can happen even if population is growing. For example, if it takes 3 per cent. of annual income invested to employ 1 per cent. more people, an annual net investment of 12 per cent. can cope with as much as a 4 per cent. increase in population. But population in Western Europe at the relevant times grew only by 1 per cent. or so per annum (which is also the present rate of growth in India), and rates of growth exceeding $2\frac{1}{2}$ per cent. per annum are even now rather rare. We cannot say that capital will always grow faster than labour (it obviously has not done so in Asia), but we can say that if conditions are favourable for the capitalist surplus to grow more rapidly than population, there must come a day when capital accumulation has caught up with labour supply. Ricardo and Malthus did not provide for this in their models, because they over-estimated the rate of growth of population Marx did not provide for it either, because he had persuaded himself that capital accumulation increases unemployment instead of reducing it (he has a curious model in which the short run effect of accumulation is to reduce unemployment, raise wages and thus provoke a crisis, while the long run effect is to increase the reserve army of unemployed). Of the classical

economists only Adam Smith saw clearly that capital accumulation would eventually create a shortage of labour, and raise wages above the subsistence level.

When the labour surplus disappears our model of the closed economy no longer holds. Wages are no longer tied to a subsistence level. Adam Smith thought they would then depend upon the degree of monopoly (a doctrine which was re-presented in the 1930's as one of the novelties of modern economic analysis). The neo-classicists invented the doctrine of marginal productivity. The problem is not yet solved to anyone's satisfaction, except in static models which take no account of capital accumulation and of technical progress. It is, however, outside the terms of reference of this essay and we will not pursue it here.

Our task is not, however, finished. In the classical world all countries have surplus labour. In the neo-classical world labour is scarce in all countries. In the real world, however, countries which achieve labour scarcity continue to be surrounded by others which have abundant labour. Instead of concentrating on one country, and examining the expansion of its capitalist sector, we now have to see this country as part of the expanding capitalist sector of the world economy as a whole, and to enquire how the distribution of income inside the country and its rate of capital accumulation, are affected by the fact that there is abundant labour available elsewhere at a subsistence wage.

II. THE OPEN ECONOMY.

9. When capital accumulation catches up with the labour supply, wages begin to rise above the subsistence level, and the capitalist surplus is adversely affected. However, if there is still surplus labour in other countries, the capitalists can avoid this in one of two ways, by encouraging immigration or by exporting their capital to countries where there is still abundant labour at a subsistence wage. We must examine each of these in turn.

10. Let us first clear out of the way the effects of the immigration of skilled workers, since our main concern is with

an abundant immigration of unskilled workers released by the subsistence sectors of other countries. It is theoretically possible that the immigration of skilled workers may reduce the demand for the services of native unskilled workers, but this is most unlikely. More probably it will make possible new investments and industries which were not possible before, and will thus increase the demand for all kinds of labour, relatively to its supply.

We must also get out of the way relatively small immigrations. If 100,000 Puerto Ricans emigrate to the United States every year, the effect on U.S. wages is negligible. U.S. wages are not pulled down to the Puerto Rican level; it is Puerto Rican wages which are then pulled up to the U.S. level.

Mass immigration is quite a different kettle of fish. If there were free immigration from India and China to the U.S.A., the wage level of the U.S.A. would certainly be pulled down towards the Indian and Chinese levels. In fact in a competitive model the U.S. wage could exceed the Asian wage only by an amount covering migration costs plus the "cliff" to which we have already referred. The result is the same whether one assumes increasing or diminishing returns to labour. Wages are constant at subsistence level plus. All the benefit of increasing returns goes into the capitalist surplus.

This is one of the reasons why, in every country where the wage level is relatively high, the trade unions are bitterly hostile to immigration, except of people in special categories, and take steps to have it restricted. The result is that real wages are higher than they would otherwise be, while profits, capital resources, and total output are smaller than they would otherwise be.

11. The export of capital is therefore a much easier way out for the capitalists, since trade unions are quick to restrict immigration, but much slower in bringing the export of capital under control.

The effect of exporting capital is to reduce the creation of fixed capital at home, and therefore to reduce the demand for

labour. Labour will still be required to create the capital (*e.g.* to make machines for export), but domestic labour will no longer be required to work with the capital, as it would also be if the capital were invested at home.

This, however, is only one side of the picture, for the capital may be used in foreign countries in ways which raise the standard of living of the capital exporting country (and so offset wholly or partly the first effect), or in ways which lower it (thus aggravating the first effect). The result depends on the type of competition which there is between the capital exporting and the capital importing countries.

12. Let us assume, to begin with, that there is no competition, and even no trade. Both countries are self-sufficient. Wages however are rising in country *A*, while labour is abundant in country *B*. *A's* capitalists therefore invest their capital in *B*. Trade returns show first the export surplus from *A*, representing the transfer of capital, and later the import surplus representing the return home of dividends. There is no effect on the workers in *A* other than that their wages cease to rise, as they would have if the capital were invested instead at home. If *A's* resources and *B's* resources are exactly the same, wages cannot rise in *A* until capital accumulation in *B* has wiped out *B's* labour surplus.

Now in the real world the resources of two countries are not exactly alike, and it cannot be taken for granted that it will be more profitable to invest in *B* if profits are falling in *A* (which also cannot be taken for granted). The profitability of investing in a country depends upon its natural resources, upon its human material, and upon the amount of capital already invested there.

The most productive investments are those which are made to open up rich, easily accessible natural resources, such as fertile soil, ores, coal or oil. This is the principal reason why most of the capital exported in the last hundred years went to the Americas and to Australasia rather than to India or to China, where the known resources were already being used. In the well developed parts of the world (in the resource sense)

the main opportunity for productive investment lies in improving techniques—these countries are well (even over-) developed in the resource sense, but under-developed in their techniques. It is profitable to use capital to introduce new techniques, but this is not as profitable as using capital to make available both new techniques and also new resources. This also explains why the United Kingdom rapidly became a capital exporting country (the limits of its natural resources were soon reached), whereas the United States is very late in reaching this stage, since its natural resources are so extensive that capital investment at home is still very profitable even though wages are very high.

Productivity depends also on the human material. Even though the genetic composition of peoples may be much the same, as far as potential productivity may be concerned, their cultural inheritance is very different. Differences in literacy, forms of government, attitudes to work, and social relations generally may make a big difference to productivity. Capitalists naturally find it more profitable and safer to invest in countries where the atmosphere is capitalist than they do in widely different cultures.

But this is not all. For the productivity of investment in *B* depends not only upon *B's* natural resources and its human institutions, but also upon the efficiency of all other industries whose services the new investment would require to use. This depends partly upon how highly capitalised these other industries are. The productivity of one investment depends upon other investments having been made before. Hence it may be more profitable to invest capital in countries which already have a lot of capital than to invest it in a new country. If this were always so, no capital would be exported, and the gap between wages in the surplus (labour) and non-surplus countries would not diminish but would widen. In practice capital export is small, and the gap does widen, and we cannot at all exclude the possibility that there is a natural tendency for capital to flow towards the capitalised, and to shun the un-capitalised.

If we could assume that there is a natural tendency for the rate of profit to fall in a closed economy, we could say that

however low the rate may be in other countries, the rate in the closed economy must ultimately fall towards the level elsewhere, after which capital export must begin. Practically all the best known economists of every school, in every century, have affirmed that such a tendency exists, though their reasons have varied widely. The most notable exception is Marshall, who gave the right answer, which is that increasing capital per head tends to lower the yield of capital, while increasing technical knowledge tends to raise it. Thus, said Marshall, the yield fell from 10 per cent. in the Middle Ages to 3 per cent. in the middle of the eighteenth century—a long period of slow technical growth—after which the decline was arrested by the great increase in opportunities for using capital. This being so, the natural tendency for the yield of capital to fall is nothing but a popular myth. The yield may fall or it may not ; we cannot foretell.

We get a different answer, however, if we turn from the rate of profit on capital in general to the rate in particular lines of investment. In any particular line the possibilities of further expansion are soon exhausted, or at any rate greatly reduced. All industries develop on a logistic pattern, growing fairly slowly at first, then rapidly, and later on growing again quite slowly. Hence the investors in any particular line sooner or later come to a point where there is not much more scope for investment in that line at home. It is open to them to put their accumulating profits into quite different industries. But there is also the temptation to stick to the field in which they have specialised knowledge, and to use their profits to take the industry into new countries.

What brings about the exportation of capital is not inevitably falling home profits, or rising wages at home, but simply the fact that foreign countries having different resources unutilised in different degrees there are some profitable opportunities for investment abroad. This is not even dependent on capital accumulation having caught up with surplus labour at home; for even if there is still surplus labour at home, available at subsistence wages, investment opportunities abroad may be more profitable. Many capitalists residing in

surplus labour countries invest their capital in England or the United States.

We must therefore beware of saying that a country will begin to export capital as soon as capital accumulation at home catches up with labour supply. All the same, countries do export capital, and we can say that if labour is scarce in those countries, the effect is to reduce the demand for labour in those countries and thus to prevent wages from rising as much as they otherwise would.

13. Let us now assume that the two countries do not compete, but trade with each other. There are two variants of this case. One where the two countries produce only one good, but a different good in each. Here wage levels are not determined in relation to each other. In the second case, each country produces two or more goods, one of which is common to both, and is the good produced in the subsistence sector.

Suppose that in the first case country *A* produces wheat, and country *B* produces peanuts. Relative prices are determined solely by supply and demand. Assume that a capitalist sector develops in *A*, applying new techniques to wheat production. At first it may get unlimited labour at an average wage in wheat related to average subsistence wheat production. In due course, however, the surplus is eliminated and wheat wages start to rise. If the capitalist techniques which fructified wheat production are equally applicable to peanuts, it will pay to export capital to *B*, where unlimited labour is available at a wage related to average subsistence output of peanuts.

As in the case discussed before, wages in *A* will be held down by the profitability of investing capital in *B*. A new element, however enters into consideration, because of the effects of investment on the terms of trade. When capital is being invested in *A*, and raising the output of wheat, the price of peanuts will rise relatively. Hence the capitalist workers in *A* as well as subsistence workers in *A* will be worse off in terms of peanuts, though earning the same real wage in wheat. And the workers in *B* will be better off in terms of wheat,

while earning the same in peanuts. When capital is invested in *B* the opposite happens : the terms of trade are moved against the *B* workers in favour of the *A* workers.

The moral is that capital export may benefit the workers on balance if it is applied to increasing the supply of things they import. For example, in the Britain of 1850 exclusive investment at home in the cotton industry, while tending to raise wages, might also still more have depressed the terms of trade against the cotton industry.

When we pass to the second case, the result is the same, except that the terms of trade are now determinate. Assume that both countries produce food, but do not trade in it. Country *A* also produces steel, and country *B* also produces rubber. If *B* can release unlimited supplies of labour from subsistence food production, wages in *B* will equal average (not marginal) product in food (abstracting from the difference between subsistence and capitalist wages). In *A* also the wage cannot fall below productivity in the food industry. We may simplify by assuming in the first instance that labour is the sole factor of production and that one day's labour

in *A* produces 3 food or 3 steel
in *B* „ 1 food or 1 rubber.

Earnings in *A* will then be three times earnings in *B* (the difference in food productivity). And the rate of exchange will be 1 food = 1 steel = 1 rubber. Suppose now that productivity increases in *B's* rubber industry only, so that one day's labour produces instead 3 rubber. This is excellent for the workers in *A*, since 1 steel will now buy 3 rubber. But it will do the workers in *B* no good whatsoever (except in so far as they purchase rubber), since their wage will continue to be 1 food. If on the other hand the subsistence economy became more productive, wages would rise correspondingly. Suppose that 1 day's labour in *B* now produced 3 food or 1 rubber, wages would be as high in *B* as in *A*, and the price of rubber would now be 1 rubber = 3 steel. Workers in *A* are benefitted if productivity in *B* increases in what they buy, and are worse off if productivity in *B* increases in *B's* subsistence sector.

Workers in *B* are benefitted only if productivity increases in their subsistence sector ; all other increases in productivity are lost in the terms of trade.

We have here the key to the question why tropical produce is so cheap. Take for example the case of sugar. This is an industry in which productivity is extremely high by any biological standard. It is also an industry in which output per acre has about trebled over the course of the last 75 years, a rate of growth of productivity which is unparalled by any other major industry in the world—certainly not by the wheat industry. Nevertheless workers in the sugar industry continue to walk barefooted and to live in shacks, while workers in wheat enjoy among the highest living standards in the world. The reason is that wages in the sugar industry are related to the fact that the subsistence sectors of tropical economies are able to release however many workers the sugar industry may want, at wages which are low, because tropical food production per head is low. However vastly productive the sugar industry may become, the benefit accrues chiefly to industrial purchasers in the form of lower prices for sugar. (The capitalists who invest in sugar do not come into the argument because their earnings are determined not by productivity in sugar but by the general rate of profit on capital ; this is why our leaving capital out of this and subsequent analysis of the effects of changing productivity upon wages and the terms of trade simplifies the analysis without significantly affecting its results). To raise the price of sugar, you must increase the productivity of the tropical subsistence food economies. Now the contribution of the temperate world to the tropical world, whether in capital or in knowledge, has in the main been confined to the commercial crops for export, where the benefit mainly accrues to the temperate world in lower prices. The prices of tropical commercial crops will always permit only subsistence wages until, for a change, capital and knowledge are put at the disposal of the subsistence producers to increase the productivity of tropical food production for home consumption.

The analysis applies to all tropical commercial products of which an unlimited supply can be produced because unlimited

natural resources exist, in relation to demand—*e.g.*, land of suitable quality. It does not apply where natural resources of a particular kind are scarce. For example, the lands suitable for cultivating sugar or peanuts are very extensive. But mineral bearing lands, or lands with just the right suitability for cocoa, are relatively scarce. Hence the price of a mineral, or of cocoa, may rise to any level consistent with demand. If the lands are owned by capitalists, employing workers, this will make little difference to their wages. But if these scarce lands are owned by peasants, the peasants may of course become rich. In general the peasants have got little out of their mineral bearing lands, especially when these have been expropriated by imperial governments (or declared to be Crown property) and sold to foreign capitalists for a song. Cocoa is the only case (a doubtful one) where it seems that a world scarcity of suitable land may now permanently bring to the peasants earnings higher than they could obtain from subsistence food production.

This is not to say that the tropical countries gain *nothing* from having foreign capital invested in commercial production for export. They gain an additional source of employment, and of taxation. The accumulation of fixed capital in their midst also brings nearer the day when the demand for labour will catch up with the supply (though even this will not raise wages in any one tropical country until they start to rise in all, since capital would otherwise merely transfer itself to the countries where there is still a surplus). What they do not gain is rising real wages ; the whole benefit of increasing productivity in the commercial sector goes to the foreign consumer, at least in the early stages. In the latest stages they may also gain if their peasants imitate the capitalist techniques, so that subsistence productivity rises ; or if the continual increase in the output of commercial crops moves the terms of trade in favour of subsistence food production ; either of these changes would react upon real wages (see section 8), but would do so effectively only when the changes have extended throughout the tropical world.

14. In the next case we assume that the two countries can produce the same things, and trade with each other. *A* is the country where labour is scarce, *B* the country where unlimited labour is available in the subsistence (food) sector. Using the classical framework for the Law of Comparative Costs we write that one day's labour

in *A* produces 3 food or 3 cotton manufactures
in *B* „ 2 „ or 1 „ „

This, of course, gives the wrong answer to the question "who should specialise in which," since we have written the average instead of the marginal products. We can assume that these coincide in *A*, and also in cotton manufacture in *B*. Then we should write, in marginal terms,

in *A* produces 3 food or 3 cotton manufactures
in *B* „ 0 „ or 1 „ „

B should specialise in cotton manufacture and import food. In practice, however, wages will be 2 food in *B* and between 3 food and 6 food in *A*, at which levels it will be "cheaper" for *B* to export food and import cotton.

This divergence between the actual and what it ought to be is the most serious difference which the existence of surplus labour makes to the neo-classical theory of international trade. It has caught out many economists, who have wrongly advised under-developed countries on the basis of current money costs, instead of lifting the veil to see what lies beneath. It has also caught out many countries, which have allowed (or been forced to allow) their industries to be destroyed by cheap foreign imports, with the sole effect of increasing the size of the labour surplus, when the national income would have been increased if the domestic industries had instead been protected against imports. The fault is not that of the Law of Comparative Costs, which remains valid if written in real marginal terms, but of those who have forgotten that money costs are entirely misleading in economies where there is surplus labour at the ruling wage.

Of course if labour is a free good but the two industries use some scarce resource, such as land or capital, the comparison has to be made not in terms of labour cost but in terms of the

scarce resource. Thus, even though labour is unemployed, it may be more economic to use capital to increase the production of food than to use it in creating new manufacturing industries. Adam Smith was as usual on the ball ; this was the substance of his argument that a tariff could not raise the national income even if it increased employment, since it would simply be diverting capital from more to less productive uses. (The Keynesian model doesn't help, since it assumes unlimited capital as well as unemployment). All the same, there may be cases where it is more economic to use capital to create new industries, rather than to fructify old ones, and where this is nevertheless not the most profitable thing to do, in the financial sense, because labour has to be paid a wage when its marginal productivity is really zero. Moreover, many manufacturing activities do not in fact use any other scarce resource but labour. The handicraft and cottage industries especially, which may provide employment for up to ten per cent. of the people in backward countries, use no capital resources to speak of. Yet these are the very first industries to be destroyed by cheap imports of manufactures (*e.g.* the havoc wrought to the Indian cotton industry in the first half of the nineteenth century).

The Law of Comparative Costs, rightly applied, enables us to predict the pattern of international trade. We can say that those countries which have inadequate agricultural resources in relation to their populations (*e.g.* India, Japan, Egypt, Great Britain, Jamaica) must live by importing agricultural products and exporting manufactures ; metal manufactures if they have the coal and ores (India, Great Britain) and light manufactures if they have not (Japan, Egypt, Jamaica). Correspondingly countries which are rich in agricultural land (U.S.A., Argentina), should be net exporters of agricultural products at relatively good terms of trade. Currently this pattern is distorted by the divergence between money and real costs. But if world population continues to grow at its current rate, this pattern must emerge in due course, unless there are revolutionary developments in agricultural science.

Let us, however continue to examine this case, assuming that no distortion is taking place. As before *A* is developed while *B* has surplus labour in food. Suppose that one day's labour

in *A* produces 5 food or 5 cotton manufactures
in *B* „ 1 „ or 3 „ „ (average)

B ought to specialise in cotton, and will actually do so. Wages and prices are determinate. The wage in *B* will be 1 food, the price of cotton will be 1 cotton equals $\frac{1}{3}$ food, the wage in *A* will be 5 food, and *A* will get all the benefit of the exchange. Suppose now that productivity increases in *B's* cotton industry. *B's* wage is unchanged, and the whole benefit accrues to *A*. But if productivity increases in *B's* food industry (the average rising say from 1 to 2) *B's* wage will rise (from 1 food to 2 food). *A's* wage will still be 5 food, but cotton will now be dearer (1 cotton equals $\frac{2}{5}$ food), to the advantage of *B* and disadvantage of *A*. (*B's* wage is determinate because there is unlimited labour available at a subsistence wage ; and all the benefit of the exchange goes to *A* because *B* is producing both commodities).

15. It is time to say a word about the effect of increasing the subsistence productivity in countries with surplus labour. The analysis is the same as we made for the closed economy (section 8), except that we must now think of the world as a whole as the closed economy. We must also think of the commercial sector of these economies as being a part of the world capitalist sector.

Then, if the world capitalist sector is not dependent on the peasants for food, even to feed its plantation and mining labourers in the surplus countries, an increase in the productivity of the peasants must raise wages against the capitalists. To have this effect, however, productivity must rise in all these countries, otherwise the capitalists will simply transfer from those countries where subsistence productivity has risen to those where it has not.

If, on the other hand, we assume that the capitalists need the peasants' food, and that the demand for food is inelastic,

then increased productivity reduces the price of food even more, and so reduces the share of capitalist workers in the capitalist product. This again assumes that the changes are world-wide ; if one country raises its productivity, the price of food will not fall ; wages will rise in that country, and capitalists will move elsewhere. However, even if the price of food falls, the peasants eat most of their output, and will still be better off. For example, suppose a peasant produces 100 food, eats 80 food, and sells 20 food for 20 manufactures. Suppose now that his productivity increases to 200, reducing the price of food by more than half, say to 0·4. The peasant can now have 30 manufactures, costing 75 food, and still eat 125 food instead of 80. The standard of living in the surplus countries is thus raised nearer to that of the advanced countries, but the terms of trade move against both the food and the commercial products of the surplus countries (would move in favour of the commercial products if the elasticity of demand for food were 1·0 or more).

In practice, food production in tropical countries with surplus labour is only a small part of world food production (Asia and Africa together produce less than 20 per cent. of the world's food). Hence increases in food productivity in the tropics could not reduce the price of food *pari passu*. Real wages would therefore rise, and the terms of trade would move in favour of tropical commercial products. This would hurt labour in the industrial countries in so far as it was buying such products, and benefit it in so far as tropical countries were competing in industrial production.

16. This brings us finally to the case where the two countries *A* and *B* produce competing goods to sell in third markets. This need not detain us long. If capital is exported in ways which raise subsistence productivity in the capital importing country, the workers in the capital exporting country will benefit, since the wages of their rivals will be raised. If, however, it is exported to increase productivity in the exporting sector of the capital importing country, the workers in the capital exporting country will be doubly hit, first by the reduced

capital accumulation at home, and then again by the fall in their rivals' prices.

17. We may conclude as follows. Capital export tends to reduce wages in capital exporting countries. This is wholly or partly offset if the capital is applied to cheapening the things which the workers import, or to raising wage costs in countries which compete in third markets (by raising productivity in their subsistence sectors). The reduction in wages is however aggravated if the capital is invested in ways which raise the cost of imports (by increasing productivity in subsistence sectors), or which increase the productivity of competing exports. We have also seen that capital importing countries with surplus labour do not gain an increase in real wages from having foreign capital invested in them, unless this capital results in increased productivity in the commodities they produce for their own consumption.

III. SUMMARY.

18. We may summarise this article as follows :

1. In many economies an unlimited supply of labour is available at a subsistence wage. This was the classical model. The neo-classical model (including the Keynesian) when applied to such economies gives erroneous results.

2. The main sources from which workers come as economic development proceeds are subsistence agriculture, casual labour, petty trade, domestic service, wives and daughters in the household, and the increase of population. In most but not all of these sectors, if the country is over-populated relatively to its natural resources, the marginal productivity of labour is negligible, zero, or even negative.

3. The subsistence wage at which this surplus labour is available for employment may be determined by a conventional view of the minimum required for subsistence ; or it may be equal to the average product per man in subsistence agriculture, plus a margin.

4. In such an economy employment expands in a capitalist sector as capital formation occurs.

5. Capital formation and technical progress result not in raising wages, but in raising the share of profits in the national income.

6. The reason why savings are low in an undeveloped economy relatively to national income is not that the people are poor, but that capitalist profits are low relatively to national income. As the capitalist sector expands, profits grow relatively, and an increasing proportion of national income is re-invested.

7. Capital is formed not only out of profits but also out of credit creation. The real cost of capital created by inflation is zero in this model, and this capital is just as useful as what is created in more respectable fashion (*i.e.* out of profits).

8. Inflation for the purpose of getting hold of resources for war may be cumulative ; but inflation for the purpose of creating productive capital is self-destructive. Prices rise as the capital is created, and fall again as its output reaches the market.

9. The capitalist sector cannot expand in these ways indefinitely, since capital accumulation can proceed faster than population can grow. When the surplus is exhausted, wages begin to rise above the subsistence level.

10. The country is still, however, surrounded by other countries which have surplus labour. Accordingly as soon as its wages begin to rise, mass immigration and the export of capital operate to check the rise.

11. Mass immigration of unskilled labour might even raise output per head, but its effect would be to keep wages in all countries near the subsistence level of the poorest countries.

12. The export of capital reduces capital formation at home, and so keeps wages down. This is offset if the capital export cheapens the things which workers import, or raises wage costs in competing countries. But it is aggravated if the capital export raises the cost of imports or reduces costs in competing countries.

13. The importation of foreign capital does not raise real wages in countries which have surplus labour, unless the capital results in increased productivity in the commodities which they produce for their own consumption.

14. The main reason why tropical *commercial* produce is so cheap, in terms of the standard of living it affords, is the inefficiency of tropical *food* production per man. Practically all the benefit of increasing efficiency in export industries goes to the foreign consumer ; whereas raising efficiency in subsistence food production would automatically make commercial produce dearer.

15. The Law of Comparative Costs is just as valid in countries with surplus labour as it is in others. But whereas in the latter it is a valid foundation of arguments for free trade, in the former it is an equally valid foundation of arguments for protection.

W. Arthur Lewis

Manchester.

Labour and the Development of the Public Corporation

I.

The Labour Party's decision at its recent annual conference to soft-pedal the issue of further extensive nationalisation may have been partly influenced by electoral considerations. But another factor was the increasing awareness on the part of many Labour supporters that the nationalisation acts of 1946–1951 have created several problems which remain unsolved. In particular, there is a feeling that the public accountability of the nationalised industries is not yet satisfactory. In some Labour circles there is now a disposition to question the wisdom of the choice of the public corporation as the administrative form for these industries. Even that staunch protagonist of the public corporation, Mr. Herbert Morrison, who in 1946 hailed the device as the one which "gives us the best of both worlds,"[1] has recently placed on record the view that there is an argument in favour of State Departmental administration of gas and electricity.[2]

The object of this paper is not to add to the steadily growing literature on the problems of nationalised industry but rather to trace the steps by which the British Labour Movement came to choose the public corporation form for the administration of the major industries which it had pledged itself to nationalise.[3] The evolution of the public corporation in Great Britain has already been recorded by several students[4]

[1] 422 H. C. Deb. 5s. Col. 604.

[2] *Report from the Select Committee on Nationalised Industries*, H.M.S.O., 29.10.1952, p. 89.

[3] In this paper the term "public corporation" is used in the limited sense current before the war to designate a corporate trading body, not part of the normal machinery of central or local government, created by the government to undertake the management of industrial or commercial enterprises. For a discussion of the problem of defining a public corporation see D. N. Chester: "Public Corporations and the Classification of Administrative Bodies"—*Political Studies*, Vol. 1, No. 1, Feb. 1953.

[4] See, especially, Lincoln Gordon: *The Public Corporation in Great Britain*, 1938; Ernest Davies: *National Enterprise*, 1946; and D. N. Chester: "Management and Accountability in the Nationalised Industries." *Manchester Statistical Society*, Jan., 1952.

but their accounts have naturally been focused on the administrative form itself rather than on the developments in socialist thought which led to the adoption by Labour of its so-called " chosen instrument."

II.

One of the most striking features of the development of the public corporation between the wars is the fact that it was supported by all three of the major political parties. Although the public corporation form involved a departure from the British tradition of full Ministerial and Parliamentary responsibility, its evolution was essentially a non-partisan affair. Critics both from the right and from the left were not lacking[1] but, broadly speaking, the public corporation appears in retrospect as the classic example of the *administrative* instrument. Informed men of all parties, men without strong political affiliations and higher Civil Servants were all agreed, it seems, both on its desirability and its necessity.

That Conservatives and Liberals should foster and welcome the public corporation is not surprising. Both parties preferred on principle that industries and services should be run by private enterprise but both recognised that in certain cases private ownership was inexpedient. In such circumstances it was natural enough that when an industry had to be placed under public ownership, they should endeavour to make it as much like private enterprise as possible. Ownership might have to be vested in the State but, at least, public ownership should be combined, if possible, with the virtues of private business management. Rather more surprising is the readiness of the Labour Party to support what genetically may fairly be claimed as a non-socialist administrative device. The Labour Party, as is well known, did not officially adopt a socialist programme until 1918 but from the start its leadership had been in the hands of men, mainly members of the

[1]For right-wing criticisms of the public corporation see. e.g., the speeches of Mr. Dennis Herbert (Conservative) and Mr. Percy Harris (Liberal) on the second reading of the Electricity Supply Bill (20.3.1926)—193 H. C. Deb. 5s. cols. 1693 ff., and the speech of Mr. Brendan Bracken (Conservative) on the B.O.A.C. Bill (10.7.1939)—349 H. C. Deb. 5s. col. 1902. For left-wing criticisms see Section VI below.

Independent Labour Party, who subscribed to the moderate collectivism of the Fabians. For the majority of Fabians during the period 1889–1914 the administrative model of a nationalised industry was the Post Office—described by Graham Wallas in the *Essays* as " a purely Socialistic institution "[1]—and this model was adopted by the Labour Party in the six nationalisation bills introduced to Parliament between 1906 and 1913.[2] The 1913 Mines Nationalisation Bill, the best drafted of these measures, for example, provided for the ownership of the mines to be vested in a Minister of Mines in his corporate capacity and empowered him to open and to work, but not to lease, " on behalf of His Majesty," all coal mines, to appoint all managers, engineers, agents, workmen and servants, and to sell, supply and deliver coal. Provision was also made for full accounts, showing balance sheets for each mine, to be laid before Parliament.

This conception of nationalisation through State Departments was adopted by Fabian and Labour socialists without much thought having been given to possible alternatives. Revolutionary socialists, like the Social Democrats, might insist on the direct election of State officials or, like the anarchists, might oppose State ownership in favour of communal ownership and workers' control,[3] but for constitutional socialists it was as natural to accept the Post Office as the model of a nationalised industry as it was to accept the municipality as the administrative form for local industries. Some of them, however, were aware of alternative forms of

[1] *Fabian Essays in Socialism*, 1889, p. 144. Certain of the Fabian Essayists, however, favoured the idea of competition between public and private enterprise. This idea was soon replaced by the orthodox conception of public enterprise combined with statutory monopoly. The emphasis of the early Fabians was, of course, on municipal enterprise and little detailed consideration was given to nationalisation until the rise of the Labour Party.

[2] Bills, 103/1906; 135/1907; 326/1908; 92/1909; 93/1911 and 244/1913. The earliest Labour sponsored nationalisation bill was Keir Hardie's Coal Mines and Minerals Bill. No. 466/1893.

[3] For Social Democratic policy see, especially, *The S.D.F.: Object and Programme* (n.d.) and B.Bax and H. Quelch, *A New Catechism of Socialism*, 4th edition, 1906. For anarchist policy see J. Lane: *An Anti-Statist Communist Manifesto*, 1887, and P. Kropotkin: *Fields, Factories and Workshops*, 1898.

administration. As early as 1885 a contributor to *Justice*, E. F. Tomkins, who described himself as a Fabian, had objected to the idea of Departmental nationalisation.

> " As a Socialist," he said, " I do not wish to see the railways managed by a Democratic State Department, believing there might be as much tyranny under such a department as now exists under the present regime of Directors and Companies . . What I advocate is this : That the railways, canals, tramways, and suchlike means of communication, should be transferred from the so-called proprietorship of companies and declared national collective property, and placed under the separate administration of a railway, etc., trust, not mixed up with the ordinary political departments of the present State, like the Post Office, and with all the red tape bureaucracy consequent thereon, but made a separate organisation."[1]

Tomkins' proposal met with a blank response but ten years later, James Hole, also writing on railway nationalisation, advocated the system of independent commissioners which had been applied in Australia.[2]

Other supporters of nationalisation, however, continued to prefer the State Department and A. G. Wolfe, a socialist, specifically condemned the independent commission as undemocratic and liable to lead to irresponsibility.[3] This latter view was given the weighty endorsement of the Webbs in their survey of " State and Municipal Enterprise," 1915.[4] While recognising that socialists had not given sufficient thought to the problem of adapting political constitutions to their new economic tasks, the Webbs regarded the tendency in the Dominions and the U.S.A. towards independent commissions as a purely defensive reaction, an attempt to save the democracy from itself, and no solution to the problem. An alternative form of independent administration, the public trust, exemplified in the Mersey Docks and Harbour Board and

[1] *Justice*, 25.4.1885.
[2] J. Hole : *National Railways*, 2nd ed. 1895.
[3] A. G. Wolfe : *The Nationalisation of the Railway System*, n.d.
[4] Published as a special supplement to *The New Statesman*, 8.5.1915.

the Port of London Authority, was even more strongly condemned by socialists.[1] Jowett, the author of " the Bradford resolution " which sought to abolish Cabinet and Ministerial responsibility and to substitute for it control of administration by Standing Committees of the House of Commons, saw in the establishment of the P.L.A. an added argument in favour of his proposal. What good would nationalisation do, he asked, if Parliament had no more control than it had over the Port of London Authority ?[2]

In sum, it may be said that the majority of socialists prior to 1914 subscribed to the doctrine of direct departmental administration of nationalised industries and opposed as undemocratic any idea of taking industry " out of politics."

III.

By 1914, however, there were already forces at work undermining socialist faith in the State Department. In 1912 both the Railway Clerks' Association and the Amalgamated Society of Railway Servants sent delegations to the Continent to report on conditions of a number of State Railways and the delegation of the former body came back with the recommendation that, in any future scheme of railway nationalisation, the Minister should be aided by a representative committee.[3] A year later, H. Romeril, the President of the R.C.A., propounded at his union's annual conference a new conception of railway nationalisation which envisaged the establishment of a representative State railway authority, set up apart from the State, and independent and self-supporting with regard to finance.[4] Meanwhile the same influence

[1] Sidney Webb, however, did advocate a representative public trust for the Port of London—*The London Programme*, 1891.

[2] *I.L.P. Report*, 1912. pp. 86–7. For Jowett's proposals see his *What is the use of Parliament ?*, 1909, and *Parliament or Palaver?* (n.d.), and the I.L.P. Report, *The Reform of Parliament*, 1926. Mr. Herbert Morrison for long maintained a vehement opposition to the P.L.A. which on various occasions he described as (i) " a classic specimen of Lloyd Georgian capitalism "—*London Labour Party Circular*, June 1918 ; (ii) " that sinister mixture of Capitalism, guild Socialism and Sovietism "—*London Labour Chronicle*, Feb. 1920 ; and (iii) " a sort of capitalist Soviet "—*Royal Commission on London Government, Minutes of Evidence*, Cmd. 1830/1923, p. 681.

[3] *The Railway Clerk*, July, 1912.

[4] *ib.* June, 1913.

was at work in the Railway Nationalization Society of which A. Emil Davies was president.[1] Largely through his initiative, the Society drew up a new nationalisation Bill which secured the support of the railway unions and of the Labour Party and was presented to Parliament in 1914.[2] This Bill embodied the ideas of greater independence from the State and of representative Boards. " Supreme control " of the railways was to be vested in the Minister but the actual operation of the State system was to be in the hands of a Railway Board composed of four to six members, appointed in the first instance by the Government but later, subject to the approval of the Minister, by a widely representative Railway Council.

A more important factor contributing to the revision of socialist ideas of nationalisation was the rise of the movement for workers' control of industry. Syndicalist ideas which began to spread among the industrial workers after the establishment of the Socialist Labour Party in 1905 were in the main held by left-wing Marxists and by anarchists.[3] Their criticism of nationalisation as simply a form of State capitalism and their positive idea of workers' control operating through new industrial unions could be dismissed by Labour leaders as crude theories of no practical importance. But the adaptation of syndicalism to British conditions in the form of Guild Socialism could not be so easily ignored, for the Guild Socialists were not avowed revolutionaries but middle class socialists speaking the same constitutional language as the Fabians. They could and did make themselves heard.

Like the syndicalists, the guildsmen argued that nationalisation was no solution to the industrial problem: State ownership by itself could not emancipate the workers from the wage-system. What was needed was the self-government of industry by the producers in conjunction with the organised

[1]cf. A. E. Davies: *The Nationalization of Railways*, 1908; *State Purchase of the Railways*, Fabian Tract No. 150, 1910; and *The Collectivist State in the Making*, 1914, (reissued in 1920 under the title *The State in Business*).

[2]Bill 212/1914.

[3]On syndicalism see Eugene Burdick: *Syndicalism and Industrial Unionism in England until* 1918, Doctoral Dissertation, Oxford University, 1950.

consumers. To this end, they proposed a system of ownership by the State combined with management by Guilds—in effect, industrial unions embracing all grades of workers and possessing a monopoly of labour in their particular industries. Industry would be nationalised by the State which would then grant to the appropriate Guild a charter giving it responsibility for the management of the industry. State property would thus be held " in trust " by the Guild. In return for the charter, the Guild would pay to the State " a substitute for economic rent," the amount of which could be adjusted to prevent the trustee exploiting its monopoly position. All the Guilds—some 15 to 20 in number—would be represented on a Guild Congress, the successor to the present T.U.C., which, as " the directorate of industry," would sit in permanent session and negotiate directly with the State on matters affecting the consumers. In this way the State, representing the consumers and the Guilds, representing the producers, would jointly control the industries of the country.[1]

During the war years the guild movement made rapid headway among trade unionists, particularly among the miners, the engineers, the railwaymen and the postal workers. With the exception of the latter, however, few trade union leaders swallowed guild socialism whole. Instead they sought to effect a compromise between the new doctrine and the old-fashioned Fabian Collectivism.[2] The Miners' Bill placed before the Sankey Commission in 1919 is the best example of this attempted compromise.[3]

Its object was the " joint control " of the mining industry by the Miners' Federation and the State. Ownership of the mines and minerals was to be vested in a Mining Council in its corporate capacity. This Council was to have full managerial responsibility for the industry and was to be

[1]On Guild Socialism see, particularly, A. R. Orage (editor) : *National Guilds*, 1914 ; G. D. H. Cole : *Self-Government in Industry*, 1917, 3rd ed. 1919, and *Guild Socialism Restated*, 1920 ; N. Carpenter : *Guild Socialism*, New York, 1922.

[2]The best documented general account of Labour views at this period is Arthur Gleason : *What the Workers Want*, New York, 1920.

[3]*Coal Industry Commission, Evidence*. Cmd. 359/1919. pp. 922–6.

composed of ten members appointed by the Miners' Federation and ten members appointed by His Majesty. The Minister of Mines was to act as President and be responsible to Parliament for the Council.

The scheme thus represented a modification of the Departmental system rather than a clear abandonment of it. As a compromise, however, it lacked the persuasive simplicity of the full-blooded Guild idea. One of the major weaknesses of the scheme was spot-lighted in the evidence before the Commission: the confused conception of the relationship between the Council and the State. The framers of the Bill wanted to get away from "bureaucratic" administration—equated with State administration—but they were not agreed among themselves on how the scheme would operate in practice. W. Straker, for the Federation, asserted that the Minister would be responsible to Parliament but his position would *not* be the same as that of any existing Minister.[1] Pressed on the point that the House of Commons would nevertheless hold the Minister personally responsible for the industry, Straker retorted that the House would need to be "educated in these things."[2] H. Slesser, who had drafted the Bill for the Federation, thought that the position of the Minister would be very like that of the Secretary of State in relation to the Army Council, the executive and regulatory powers being vested in the latter body and not in the Secretary of State.[3] Taken up on this dubious analogy, however, he opined that it was highly probable that the Minister would have the decisive voice.[4] This Straker, on his second appearance before the Commission, flatly denied. On the contrary, he envisaged the possibility of the Minister being outvoted in Council, in which case he would then have to carry out the wishes of the majority.[5]

Despite the defects of the Bill the Labour Party and the T.U.C. joined with the Miners' Federation during the autumn

[1] *ib. QQ.* 1443–4.
[2] *ib. QQ.* 8447–8.
[3] *ib. Q.* 22,065.
[4] *ib. Q.* 22,093.
[5] *ib. QQ.* 23,567–70.

of 1919 in the Mines for the Nation campaign. The campaign was a dismal failure but it did much to educate Labour opinion on the subject of joint control and to pave the way for its adoption as the official policy of the party. The person chiefly responsible for drawing up the new policy was Sidney Webb whose membership of the Sankey Commission had convinced him of the need to make specific provision for the participation by the workers in the control of industry.[1] Outlining in their book "A Constitution for the Socialist Commonwealth of Great Britain," 1920, a constitution for nationalised industry, the Webbs declared categorically against the existing departmental form of administration with its system of Ministerial responsibility. Current administration was to be clearly separated from policy making.[2] The latter function was to be exercised by a Social Parliament through a number of Standing Committees on the L.C.C. pattern. Each nationalised undertaking would have a separate standing committee "charged with the continuous oversight of its own service, and responsible for advising the Social Parliament upon any issue that arises connected with that service."[3] Current administration would be exercised through National Boards which, subject to specific directions on policy from the Social Parliament, would have full powers over the administration of their services. The composition of these Boards might vary with circumstances but, as a type, the Webbs suggested a representative board of sixteen composed of five officials, five workers and five representatives of the consumers, with a chief executive as president.

These Webbian proposals formed the basis of the report on socialisation adopted by the Congress of the Labour and Socialist International at Geneva, October 1920, and accepted by the British Labour Party.[4]

[1]Webb himself had submitted to the Sankey Commission a plan which did not provide for the direct participation of the workers in management.—*Coal Industry Commission, Minutes of Evidence*, Cmd. 359/1919, p. 477 ff.

[2]*op. cit.* p. 169.

[3]*ib.* p. 173.

[4]The report is printed as an appendix to the *Annual Report of the Labour Party*, 1921.

The idea of a Social Parliament organised in a system of Standing Committees did not appear in the report but in other respects the administrative proposals followed closely those of the Webbs. There was to be the same sharp distinction between control and administration; the organisation of administration was to be separate from the political government; and the tri-partite Board of Workers, management and consumers was accepted as the general type of central body.

The chief interest of the Geneva Socialisation Report today lies in the fact that its conception of a tri-partite representative board is still adhered to by a number of West European Social Democratic Parties and by the French C.G.T. Despite the prominent part played by Webb in its composition the British Labour Party never considered it seriously. The next important nationalisation proposal, " Coal and Commonsense," which was put before the Samuel Commission in 1926, abandoned the tri-partite representative board in favour of two separate representative boards; one for producers and one for consumers. The 1926 scheme was designed to cover the whole field of power and transport and not merely the coal industry. It proposed the setting up of a Power and Transport Commission (P.T.C.) consisting of six experts whose general functions would be to survey power and transport developments as a whole and to act as the final authority on the larger questions of policy affecting the coal industry. This regulatory Body was to be attached to the Board of Trade, the President of which would be answerable for it to Parliament.

For the administration of the coal industry, which was to be transferred to public ownership, the scheme proposed the establishment of a Coal and Power Production Council and a Consumers' Council. The former body would consist of representatives of the miners and of executive and administrative officials in equal numbers plus two representatives of the Power and Transport Commission. Its duties would be defined by statute but in general it would be " responsible for the conduct of the industry in much the same way as a board of directors is responsible for the conduct of a company."[1]

[1] *Coal and Commonsense: Labour's Scheme for the future of the Coal Industry*, Labour Party, 1926, pp. 15–16.

Capital development, however, would require the sanction of the P.T.C. The Consumers' Council, a widely representative body, would deal with all matters affecting the consumers including prices, transport rates and methods of distribution.[1] Both Councils would be presided over by the Secretary for Mines and the Consumers' Council would meet periodically with the Production Council for the purpose of negotiating wages and prices and for the consideration of questions affecting coal and power supply. On the question of finance, the authors of the scheme considered it " desirable " that the industry should normally provide its own capital and be independent of outside borrowing. There was to be no question of Parliament subsidising the industry and any mismanagement would thus " recoil upon the heads of those in the industry " who would " suffer economically."[2]

The general idea behind the plan was to limit political interference to a minimum and government intervention to questions of general policy. Insofar as the duties of the P.T.C. and the Production Council were defined by statute, no question of Ministerial control, it was thought, would arise : Parliament would have limited the responsibility of the Minister in this respect and his function in relation to Parliament would be to provide information, as the Minister did at present with regard to the Electricity Commissioners, the Unemployed Grants Committee and the Trades Facilities Committee.[3] Outside the statutory duties of the proposed authorities, the Minister would exercise " ultimate responsibility " and certain specific statutory duties. The President of the Board of Trade, for example, would be the " final arbiter " on the question of prices and the Secretary for Mines would be chairman of both national councils, a position which would enable him to exercise " considerable influence," especially in joint discussions between the two bodies.

[1]The " Miners' Bill " of 1919 had made provision for an *advisory* Consumers' Council. The 1926 plan is unique among Labour Party nationalisation proposals in that it provided for a Consumers' Council with *executive* powers.

[2]*Coal and Commonsense*, p. 21.

[3]loc. cit.

Some private memoranda drawn up in November 1925 by the Joint Research and Information Department of the Labour Party and the T.U.C. on which the proposals presented to the Samuel Commission were based, throw light on the minds of the authors of the scheme.[1] The proposal for an executive and not merely advisory Consumers' Council was made, it appears, in order to forestall criticism that the miners would fix their own wages without the consumers having any real say in the matter. Another point which emerges is the careful consideration given to the position of the Minister under the scheme—no doubt in the hope that the sorry experience of divided opinions among the Federation's witnesses which marked the Sankey Commission would not be repeated. Having provided, as they thought, for the effective representation of the consumers' interest and for the scrutiny by Parliament of the annual reports and financial accounts of the coal industry, there would seem to be, argued the authors of the memorandum, "no need for Ministerial control over the industry, except such control as may be exercised either by him or by Parliament, should a body established by statute fail to fulfil its duties": "the Government will have the same 'control' as the shareholders of a company have." Intervention by the Minister would be necessary only when the Production and Consumers' Councils were unable to agree on prices.

The private memoranda, in addition, provide a clue to the derivation of the scheme. The influence of Guild Socialism and the debates of previous years is plainly evident and to be expected. More interesting is the citation of a number of Dominion nationalised undertakings whose organisation and administration, it is alleged, are in accordance with the basic principles of the scheme, i.e. the avoidance of direct governmental control and administration as far as possible, and the

[1]The subjects of the memoranda are: (i) *Integration in the Power Industry* (115*a*); (ii) *The Future of the Coal Industry* (113*b*); (iii) *The Finance of Coal and Power Nationalisation* (114*b*); (iv) *The Position of the Minister under the Scheme* (118); and (v) *Some notes on the scheme for the Coal Industry* (116*a*). A copy of the memoranda is to be found in the Cole Collection, The Library, Nuffield College, Oxford.

exercise of control only upon questions of the highest policy and finance. The undertakings named are: the Canadian National Railways, the Australian State Railways and the Hydro-Electric Power Commission of Ontario.[1]

Summarising the development of socialist thought on the subject of nationalisation up to 1926, one may say that, partly under the influence of Continental and Dominion examples but chiefly as a result of the demand for workers' participation in control and management, the Labour Movement abandoned after the first world war the previously held Fabian conception of nationalisation through State Departments on the model of the Post Office. Direct control, it was agreed, would be "bureaucratic," detrimental to the business success of nationalisation and, moreover, would fail to provide for that share in management which workers now demanded as a right. In place of the orthodox Department, there should be quasi-independent representative councils, presided over by the appropriate Minister who would exercise "ultimate responsibility" for the industry. The role of Parliament would be confined to the establishment by statute of the administrative bodies and to the exercise of higher control over them in a manner analogous to that exercised by the shareholders of a company.

IV

Students of the public corporation will recognise in Labour's 1926 plan for the coal industry a number of the basic ideas and phrases associated with the later form of administration. In retrospect the plan appears as a transitional measure marking the end of one phase of socialist thought and the beginning of another. Seen in the light of what followed the two most important differences between the Coal and Power Production Council and the National Coal Board are (i) the position of the Minister as President of the Council and (ii) the constitution of the Council as a body composed of representatives appointed by outside bodies and not by the Government.

[1] A series of articles on the Canadian National Railways based on information supplied by Sir Henry Thornton had appeared in *The Railway Service Journal*, July, Aug., Sept., 1925.

These differences are sufficient in themselves to warrant the conclusion that the Production Council would not have been a public corporation in the modern sense, but the general drift of Labour thought away from the departmental and towards the public corporation form of administration is unmistakeable. It is interesting, therefore, to examine the reaction of Labour opinion to the institution of the Central Electricity Board and the B.B.C. which took place in the same year (1926).

In the development of these two bodies the Labour Party had perforce played no direct part and the way was thus open for it to reject them altogether, to endorse them as they stood or to accept them, with modifications if necessary, as models for nationalised industries generally. In the event Labour, as we know, chose the latter course but it is not apparent from the debates or the C.E.B. and B.B.C. that it would do so. Speaking for the Parliamentary Labour Party on the third reading of the Electricity Supply Bill, Mr. Attlee criticised the measure's method of operation. " The method," he said, " is extraordinarily clumsy, extraordinarily intricate and extraordinarily involved . . . We have objected on this side, and it has been taken that our objection was because we are in love with some bureaucratic method directed from Whitehall. We do not pin ourselves to any particular form of nationalisation, any particular form of organization of industry. Indeed, we know perfectly well that the various forms of industry in this country must have a separate and distinct organization according to their needs. This Conservative method may have great merits . . . It is essentially a Conservative method of bringing in what Socialists have proved must be done, in the form of setting up a non-profit making corporation. It is, perhaps, natural to a party that has autocratic traditions. But we on this side prefer things to be under the control of the people through this House."[1]

A few days after this condemnation of the non-profit making corporation as " essentially a Conservative method," the Party was called upon to define its attitude to the B.B.C. and spoke with a different voice. G. C. Ammon, connected

[1]199 H.C. Deb. 5s. Cols. 1440–1.

with the postal workers' union, criticised the Government for not handing broadcasting administration over entirely to the Post Office as a national concern.[1] William Graham, however, the chief Labour spokesman and a member who had served on the Crawford Committee, welcomed the new form of organization as an example of " the Socialism of public corporation," adding significantly that other monopolistic industries were " rapidly becoming ripe for the same kind of treatment."[2]

The expression of these contradictory attitudes indicates that the advent of the public corporation had taken Labour supporters by surprise. But, it may be asked, why the doubts and hesitations when for a decade or more the direction of their own thought had been moving away from the department and towards a more independent form of organization ? The answer is, perhaps, to be found, partly, in the fact that the authors of the C.E.B. and B.B.C. made the public corporation form immediately suspect to some and, partly, in the fact that the direction of their own thought had been obscured by the recent insistence on the need for industrial democracy. In 1926 both Labour and Conservative thought was converging on the public corporation but the fact that they had come by different routes made some difference. Non-socialists were coming to see the need for some public ownership but they wanted public ownership without " Whitehall bureaucracy " and preserving as much of the form of private enterprise as possible. Hence, the organization must be taken " out of politics." Socialists wanted public ownership on principle and welcomed any extension of it. They too had come to dislike " bureaucracy " but their democratic origins made them suspect the phrase " out of politics." In a sense they wished to take industry " out of politics " but not for the same reason as Conservatives : not so much to preserve the principles of business management as to make industry more, not less, democratic and, in particular, more responsive to the wishes of the workers in industry. In this connection, the idea of a

[1] *ib.* Col. 1604.

[2] *ib.* Cols. 1590–1.

wholly non-representative board appointed from above by the Government came as a surprise to a good many socialists. They assumed that the representative principle was an integral part of democratic organization.[1] The doubts and hesitations expressed by certain socialists in 1926 were perhaps due to an uneasy feeling that a large measure of agreement about the forms industry should take might hide fundamental disagreements about the purposes for which those forms should be applied.

In the next few years these doubts and hesitations about the public corporation form—though not the doubts concerning the abandonment of the representative principle—were largely dispelled.

How these doubts were dispelled, however, is not very clear. The publications of the Labour Party and the T.U.C. on the subject of nationalisation between the years 1926 and 1930 are very scanty and the semi-official publications of Labour leaders mostly uninformative. But between the rejection of the 1926 plan by the Samuel Commission and the proposal in December 1929 to set up a public corporation for London transport it is certain that a good deal of discussion was going on behind the scenes. Discussion which took place during a critical period for the Labour Movement, following the defeat of the General Strike, and which cannot fail to have been influenced by the steadily mounting support given to the public corporation idea by non-socialists.[2]

The part played by Mr. Morrison in the establishment of the L.P.T.B. and his subsequent concern with problems of socialisation have given rise to the view that he was the principal protagonist of the public corporation in Labour circles. In fact, however, the first Labour champion of the idea was William Graham from whose speech on the B.B.C. we have quoted above. Writing in 1926 on " Industry under

[1]cf. " . . . there are many who hold that representative control is the essence of socialisation."—" Should we nationalise the railways ?," *The New Statesman and Nation*, 6.6.1931.

[2]Notably by the Liberal Party in its " Yellow Book " : *Britain's Industrial Future*, 1928. J. M. Keynes had endorsed the idea two years earlier in his book, *Essays in Persuasion*, 1926. pp. 313–4.

Socialistic Control," he distinguished the public corporation as a separate form of administration alongside public ownership (sc. departmental nationalisation ?), municipal ownership and Co-operation. " Coal, railways, electricity and other basic industries are ripe for public corporation and were it achieved the form of commission adopted for broadcasting might usefully be applied."[1]

Another early convert to the idea was Philip Snowden. In its new programme, *Labour and the Nation*, 1928, the Labour Party had little to say on the subject of administration of nationalised industries, but it specifically recommended in the case of the Bank of England a public corporation representative of " such essential factors in the community as the Treasury, Board of Trade, Industry, Labour and the Co-operative Movement."[2] Supporting this proposal at the Labour Party Conference, 1929, Snowden argued—ironically, in view of the crisis two years later—that he was not prepared to see the great power exercised by banks through their control of financial policy placed in the hands of *any* political government. By placing the Bank under a public corporation political control could be avoided while, at the same time, Parliament would lay down the general principles on which the corporation would work.[3] " I believe," he concluded, " that we are going to get our Socialism very largely in that way—that is, through Public Corporations owned by the public but controlled in the interests of the public by the best experts and business men whose brains and capacity can be commanded."[4]

The 1928 plan for the Bank of England, it will be seen, still took for granted the validity of the representative

[1] *Encyclopaedia of the Labour Movement*, edited by H. B. Lees-Smith, (1926), Vol. 11, p. 95. See also Graham's articles in *The Railway Service Journal*, Dec. 1928 and Jan. 1929.

[2] *Labour and the Nation, Supplement on Banking and Currency Policy*, Labour Party, 1928.

[3] In 1926 James Maxton had introduced the Bank of England (Nationalisation) Bill (Bill 18/1926) which proposed the establishment of a corporation to be known as the Bank Council. The Council, however, was to be appointed by the Chancellor of the Exchequer and the intention was to bring the bank under the direct control of the government.

[4] *Annual Report of the Labour Party*, 1928. p. 232.

principle, although it is not clear whether the Chancellor of the Exchequer would himself have been a member of the corporation. Despite the acceptance of the term, Labour was officially a substantial distance away from the type of public corporation which Morrison was soon to advocate for London transport. A number of Labour leaders, however, had arrived there already. A memorandum drawn up in 1928 by Mr. Emanuel Shinwell and Mr. John Strachey, for private circulation, foreshadows, in all save lesser details, the conception of the public corporation which was subsequently adopted by the Labour Party.[1] The memorandum was concerned with the coal industry but it is clear that the authors considered the organisation which they propounded as applicable to other nationalised industries.

Labour's 1926 plan for coal had been criticised by the Samuel Commission on a number of grounds but the biggest gun in the Commission's armoury was directed against the scheme's proposals as they affected the position of the Minister :

> " The essential contradiction, which is embodied in the scheme proposed to us is clearly seen if the position assigned to the Minister of Mines is considered. Like other Ministers he is responsible to Parliament. If the representatives of the tax-payers should disapprove of the manner in which the industry is administered, whether on financial grounds or on any others, they can secure the resignation of the Minister or a change of policy. But under this scheme the Minister is also to be the Chairman of two bodies, by whom questions of wages and prices are to be settled. These bodies are not appointed or controlled by him ; their members are almost all elected by independent constituencies. The Minister therefore may receive the instructions of Parliament, but he has no power to give effect to them. If, however, the scheme were to be modified in order to meet this criticism and were to give him that power, then, we repeat, its essential character would be changed, and it would become

[1] I am indebted to Mr. A. H. Hanson, Lecturer in Public Administration. The University of Leeds, for drawing my attention to this memorandum. For a fuller account of it, see his article, "Labour and the Public Corporation," in a forthcoming issue of *Public Administration*.

a plan for direct State control. As it stands, the position in which the Minister of Mines is to be placed leaves him as the embodiment of the inconsistency of one authority being given the right to manage, another being left with the liability to pay."[1]

The Shinwell-Strachey memorandum in effect endorsed these criticisms. In the 1926 scheme executive power was diffused over too many councils and committees ; the question of the actual legal ownership of the industry as between the councils and the Government Department or Minister was not clearly defined ; and the scheme placed upon the Minister of Mines a responsibility to Parliament for the good conduct of the industry which in fact he could not discharge as his executive authority had been dissipated amongst various other bodies.

The authors urged, therefore, the abandonment of the 1926 scheme and proposed—what they considered to be a comparatively new approach—to regard the question of nationalisation as purely and simply a business one. A " Public Utility Corporation " of a special type would be formed to which the State would hand over the whole assets of the industry, in return for debenture stock equivalent to the amount paid in compensation to the former owners. The relationship between the State and the Corporation would thus be clearly defined as the ordinary relationship between a Corporation and its debenture holders and, apart from certain legal limits laid down by Act of Parliament, the Corporation would be perfectly free to conduct the industry as it pleased. Only if the debenture interest were not paid would the State, like any other debenture holder, have the right to step in and re-assume the ownership and control of the industry.

On the important question of the constitution of the directorate of the Corporation, the authors proposed to jettison both the representative principle and the idea of Ministerial participation. The Minister would not himself be a member of the Board of Management but would appoint as directors men of " proved industrial ability." The trade unions would

[1] *Coal Industry Commission Report*, Cmd. 2600/1926, Vol. 1, p. 69.

not have the right to nominate any of the Board, although the establishment of union-management consultative machinery would be made a condition of the Corporation's charter. Trade unions, it was argued, were designed to protect the interests of the men and were efficient only for that purpose. If they were allowed to appoint representatives to the Board, these would inevitably appear to go over to the management side and thus lose the support of the men. " Workers' control " would operate not through representation but through the abolition of nepotism and the institution of a system of promotion from the ranks.

It is clear then that by 1928 there was a strong current of opinion inside the Labour Party in favour of a non-representative public corporation quite distinct from the ordinary departments of state. A year or so later, by which time the Party had been called upon to form its second government, this current was strong enough to secure the adoption of this form in the scheme for reorganising London transport. The person publicly responsible for the scheme was, of course, Mr. Herbert Morrison, Minister of Transport. In proposing the setting up of the London Passenger Transport Board, Morrison was breaking with Labour's previously declared policy on this question. The London Labour Party, of which he had been secretary, had from its birth in 1914 opposed the idea of *ad hoc* specialist bodies like the Metropolitan Water Board and the Port of London Authority on the ground that all public services should be directly under the control of the elected local authority.[1] It soon recognised, however, that such a policy was impracticable without a drastic overhaul of London government and it was thus led to advocate the establishment of a Metropolitan regional authority big enough to control all London's services.[2] By 1928 the wider movement for a regional reorganisation of local government had subsided but the London Labour Party continued to give the demand for a

[1]For a general account of the London Labour Party, see B. Barker: *Labour in London*, 1946.

[2]See the evidence of the London Labour Party submitted to the R.C. on London Government, Cmd. 1830/1923.

Greater London a prominent place in its election manifesto.[1] In that year, however, in face of the attempt by the Traffic Combine and the Municipal Reform L.C.C. to promote a privately-owned transport trust, Labour let it be known that it would be prepared to accept something less than its full programme. Morrison declared that while, Labour stood for public ownership and control of transport, it would be " not unwilling to accept a fusion of municipal and private interests on the basis of the flotation of a joint stock company with a predominance of municipal capital and directors "[2]—a so-called " mixed company," in fact. After the general election, *The London News*, the organ of the London Labour Party, saw fit to warn its readers that " our own people must be prepared for a scheme which won't altogether be ideal from a Labour and Socialist point of view "[3]—a clear hint that the ideal of municipal ownership must be abandoned. When the proposals for a public corporation had been announced, leaders of London Labour hastened to their defence. Charles Latham explained that no municipal authority existed in which ownership could be vested. The alternative of an *ad hoc* organisation on the model of the London and Home Counties joint Electricity Authority was also ruled out because nobody with experience of the latter body would wish to hand over London's transport to an authority in the same " ineffective and unhappy position."[4]

Morrison himself declared that his decision to set up a public corporation had been influenced by three factors: first, his own experience and modern socialist thought generally; second, the Liberal Party's " Yellow Book " which had specifically recommended such a solution of London's transport problem; and, third, his experience of the C.E.B. with which as Minister of Transport he was closely concerned.[5] An unmentioned but possible fourth factor was the readiness

[1] *London News*, Feb. 1928.
[2] H. Morrison: *The London Traffic Fraud*, Labour Party, 1929.
[3] *op. cit.* August, 1929.
[4] *London News*, January, 1931.
[5] 250 H.C.Deb. 5s. Col. 56.

of Lord Ashfield, the most obvious candidate for the chairmanship of the new public corporation, to accept the idea and to persuade his shareholders to accept it. From a tactical point of view, in consideration of the Government's minority position, the choice of the public corporation had obvious advantages. The Liberals had already agreed to it in principle and the Conservatives might be expected to be placated by the knowledge that the Labour Government was simply following the precedent of the C.E.B.[1]

Nevertheless, because a number of empirical considerations pointed in the direction of the public corporation, it would be wrong to jump to the conclusion that the choice of this form of administration was determined by them. Mr. Morrison might complain that the Conservatives had not given him credit for being man enough to admit that he had followed the precedent of the previous Government,[2] but it is not necessary to take the words of such an experienced politician too literally. The view is sometimes expressed that the idea of the public corporation as an instrument applicable to socialised industry generally did not emerge until the publication of the London Passenger Transport Bill in 1931. From this it is concluded that the L.P.T.B. was something in the nature of a pilot experiment in socialisation by the Labour Party—an experiment forced on them by the circumstances of the political situation but, fortunately, one which proved successful and could, therefore, be extended. In the light of what has been related above, however, it is clear that Labour's choice of the public corporation form was more deliberate and less empirical

[1]The Conservatives did, however, oppose the bill, although it was subsequently passed by the National Government after a number of amendments had been introduced—notably the device of Appointing Trustees.

[2]In a speech to the City of London Tradesman's Club, Mr. Morrison was reported to have said : " I confess that my ideas of non-political management have been largely influenced by the precedent set by the Conservative Government in the Electricity (Supply) Act of 1926, in establishing the C.E.B. The late Government deserves every credit for that administrative innovation, and I feel that I deserve from my Conservative friends in London Local Government encouragement rather than discouragement, not merely in following their example but in being man enough to admit that I have done it."—*London News*, Feb. 1931.

than that. Mr. Morrison's first factor—the development of " modern socialist thought "—may well have counted most. The necessity of finding a suitable form of administration for London transport served only to precipitate a development which would probably have occurred in any case. Certainly, the choice for London transport once made, the Labour Party and the T.U.C. did not wait for the bill to reach the statute book before they embarked on a complete remodelling of their nationalisation programme. Between 1932 and 1936 new proposals on public corporation lines were published for banking, electricity, transport, iron and steel, cotton and the coal industry.[1]

V.

The publication of these new proposals was accompanied by an acrimonious debate within the Labour Movement over the new nationalisation policy. This debate centered in the main round the question of worker's control, or more accurately, worker's representation.[2] The vast majority of Labour Party supporters were prepared to accept the public corporation idea but important and vocal elements were not prepared to drop the representative principle. They criticised Morrison's conception of a " corporate board of ability " and demanded that the trade unions should be given the right to nominate a proportion of the directors. On this particular question a compromise was eventually reached in 1935 when

[1]Labour Party : *Currency, Banking and Finance*, 1932 ; *The National Planning of Transport*, 1932 ; *Reorganisation of the Electricity Supply Industry*, 1932. T.U.C. : *Iron and Steel, The T.U.C. Plan of Socialisation*, 1934 ; *Cotton, The T.U.C. Plan of Socialisation*, 1935 ; *Coal, The Labour Plan*, 1936. See also the bills for the nationalisation of coal mines and minerals : Bills 11/1936–7 and 15/1937–8.

[2]The term " workers' control " is highly ambiguous. The syndicalists who might be regarded as the purest exponents of workers' control opposed workers' representation. See the pamphlet published by the South Wales Socialist Society : *A Plan for the Democratic Control of the Mining Industry*, 1919. The Guild Socialists were prepared to accept a *minimum* of 50% representation as a step towards full workers' control. On the other hand, such a convinced anti-syndicalist as Sidney Webb had put forward the idea of minority workers' representation—in connection with his proposal for a London Port Trust—as long ago as 1891.—*The London Programme*, p. 77.

the T.U.C. and the Labour Party Executive agreed on a formula which guaranteed the principle of workers' " statutory representation "—a principle which in fact conceded practically nothing to the supporters of representation.[1]

Although it needs to be emphasised that, apart from the question of representation, the majority of Labour Party supporters were prepared to accept Morrison's conception of the public corporation, there was initially some doubt as to the precise nature of his proposals for London transport. It was not at all clear to everybody at first that the public corporation was a legitimate form of nationalisation. To some it seemed that Morrison was offering them not socialism but a new version of the public utility in which private enterprise would still retain ownership of the industry and receive a limited return on its capital.[2] To many people the process of nationalisation seemed a simple matter. The State on the behalf of the community bought out the shareholders who received some form of equitable compensation and thereupon lost all connection with the industry. Then, as owner, the State provided for the management of the industry, making provision, according to the latest conceptions, for participation by the workers in control. In the L.P.T. Bill, however, the State did not propose to buy out the shareholders of the traffic combine and the private companies. Instead, they were to be given stock in the new corporation in place of their existing holdings. Moreover, on one important class of stock—the "C" stock—the dividends payable were not to be fixed but were to be left at the discretion of the Board, subject to Treasury sanction, and were to vary between 5 and 6% according to the profits earned. On top of this, the "C" class stockholders were to be given powers to apply for the appointment of a receiver if the standard 5 per cent. dividend were not paid. In the light of these features some socialists were inclined to agree with

[1]For an account of the debates see R. A. Dahl: " Workers' Control and the British Labor Party "—*The American Political Science Review*, Oct. 1947. Morrison's views on the question of representation are expressed in his *Socialisation and Transport*, 1933.

[2]See, e.g., the speech of John Bromley of the A.S.L.E.F., *Annual Report of the Labour Party*, 1931, p. 170 f.

G. D. H. Cole that it was " not easy to say, on the face of the matter, whether Mr. Morrison is proposing to socialise London transport or to reconstruct it, as the railways were reconstructed in 1921, under private ownership and control." [1] Anxiety on this score was not alleviated by the fact that certain protagonists of the public corporation spoke in terms which suggested that, on the financial side at least, it represented a transitional stage designed to squeeze the " water " out of industry and thus prepare the way for full and complete public ownership.[2]

Apparently in response to criticisms of the financial basis of the L.P.T. Bill, the T.U.C. in its report on the Control of Industry, 1932,[3] included a section on the finance of the transfer to public ownership of industries and trading services. The crux of socialisation, argued the report, lies in the transfer of *control* to the community, not as is commonly thought the transfer of *ownership*.[4] In the past control was automatically vested in the owners of property but this control has been successively limited by government regulation. Moreover, the increase in the scale of industrial organisation has led to the divorce of ownership from control while, at the same time, ownership has come to mean not so much the ownership of tangible property as the right to receive an income in the shape of profits and interest. With the introduction of dividend limitation this general tendency is carried a stage further until the logical conclusion is reached when private ownership of capital seems almost meaningless, apart from the right to an annual income. Clearly in such circumstances it is merely a matter of convenience whether socialisation takes the form of compensating the owners by the issue of Government Stock or by the issue of corporation stock. In either case, the former owners *as such* would have no part in the control and management of the new concern.

[1] G. D. H. Cole : *Economic Tracts for the Times*, 1932, pp. 287–8.

[2] cf. William Graham's speech on Trade Policy, *Annual Report of the Labour Party*, 1931, p. 195 ff.

[3] *T. U. C. Report*, 1932, pp. 211–7.

[4] For a notable anticipation of this thesis see G. D. H. Cole : *The Next Ten Years*, 1929, Ch. VII.

The sceptics, it appears, were reassured by these arguments and by the subsequent decision that in future schemes, the bondholders should not be given any power of foreclosure.[1]

A further criticism of Labour's conception of the public corporation raised the question of economic planning. Certain of the younger school of socialists, particularly those in the Socialist League and the New Fabian Research Bureau, were apprehensive lest the proposed public corporations should undermine the idea of a centrally planned economy.[2] If each public corporation, they argued, were to be allowed to make its own plans for capital expenditure and development independent of the others, then, although each industry might be centrally planned, there would be no planning of the economy as a whole. The Labour Party had in fact announced that public corporations, as well as other public authorities and private industry, should be subject to the control of a central planning authority and a National Investment Board but it had not committed itself to any particular type of central planning machinery.[3] Some of the keenest advocates of economic planning professed to see in this indecision a danger of the Party establishing not socialism but the Corporate State. To ensure central control of the corporations they proposed, therefore, that the appropriate Ministers should be chairmen of the governing boards. A motion to this effect was put to the Labour Party Conference in 1934 but was rejected without the

[1] cf. Public Ownership and Compensation, Appendix III to the *Annual Report of the Labour Party*, 1934.

[2] It is not always realised how comparatively novel is the socialist conception of economic planning. It was not until 1931 that the T.U.C. first placed on record its view that " only by a comprehensive planning of our economic development and regulated trading relations can the needs of the present day be met."—*T.U.C. Report*, 1931, p. 406. The omission most conspicuous to the modern reader of the Shinwell-Strachey memorandum referred to above is the complete lack of reference to the problem of the relation between the proposed mining corporation and any central planning authority. The conception of a planned economy is as much an " invention " of the inter-war years as the " invention " of the public corporation.

[3] *Currency, Banking and Finance*, 1932, and *For Socialism and Peace*, Labour Party, 1934.

Executive putting forward any alternative proposal.[1] It is important, however, to note that the Labour Party did envisage *some* definite statutory relationship between the public corporations and a central planning authority for it was chiefly in this respect that Labour's conception of the public corporation differed from the current Conservative conception.

VI.

Although we have emphasised the broad measure of agreement within the Labour Party and the T.U.C. on the suitability of the public corporation form for the administration of nationalised industries, it should not be assumed that there was no opposition to this development. Certain elements within the broader Labour Movement maintained a determined opposition to the new policy. Of these elements the most important were the Communist Party, the I.L.P., and, on the industrial side, the Union of Post Office Workers, although there were also other small left-ist groups—the Social Democratic Federation, the Socialist Party of Great Britain and the anarcho-syndicalists.[2]

The opposition of the Communist was curiously ambivalent in character. The period which saw the development of the Labour Party's new socialisation policy coincided with a change in Communist tactics, vis-à-vis the Labour Party. From its birth in 1920 until 1928 the British Communist Party had pursued, with conspicuous lack of success, the policy of a " united front " with the Labour Party. In the latter year, however, this policy was replaced by one of outright opposition which lasted until 1935 when in turn it was replaced by the

[1] *Annual Report of the Labour Party*, 1934, p. 201. The motion was moved by William Mellor on behalf of the Socialist League and called also for the direct representation of workers, through their trade unions, on the boards. For an account of the League's conception of socialisation see G. R. Mitchison's imaginary history : *The First Workers' Government*, 1934.

[2] The Co-operative Party which is today highly critical of the existing public corporations originally endorsed the public corporation form in a series of policy pamphlets issued in 1931 under the title *Britain Reborn*. No. 7 of the series on *Civic Ideals*, however, foreshadowed its present position when it deplored the swing in Labour opinion towards " an expert commissioner form of economic Government, detached from Parliamentary, municipal, or direct democratic control."

policy aimed at securing a " popular front " of all progressive forces against Fascism. Armed with the slogan, " Class against Class," the Communist Party put itself forward at the 1929 election as an independent working class party—according to its own lights, *the* working class party—in opposition to all other parties.[1] Its general thesis was that the leaders of the Labour Party and the T.U.C. were seeking an alliance with the ruling class and were preparing to " sell out " to capitalism. Support for this thesis was found in the swing to the right by the Labour Party and T.U.C. following the defeat of the General Strike, in the Mond-Turner negotiations and, later, in the " surrender " of the Second Labour Government to the financial interests of the City. It was also found in the development of the new socialisation policy—" the socialism of public corporation."

Opposition to any form of nationalisation by the Labour Party was, of course, to be expected from the Communists. They held in general that socialism could be achieved only by revolutionary means, after the capture of political power by the proletariat and the destruction of the capitalist machinery of government. The Labour Party's nationalisation schemes, however, were based on the assumptions that the Parliamentary system would continue and that it was possible to introduce socialism by the gradual transfer of one industry after another to public ownership.

But apart from this difference about the road to socialism, the Communists found particular grounds for opposing the policy of socialisation by public corporation. The choice of this form of organisation, they argued, made it crystal clear that Labour Party nationalisation was only a form of " State capitalism within the bourgeois state," which served to consolidate not destroy the forces of capitalism.[2] For, with the public corporation, there was no question of interfering with private ownership. All it involved was the setting-up of a " public committee " on top—a committee whose members would be drawn from the ranks of men who had ruined industry

[1]See *Class against Class*, the General Election Programme of the Communist Party, 1929.

[2]Hugo Rathbone, " The Programme of the Labour Party," *Labour Monthly*, 1928, p. 481 ff.

plus a few trade unionists who would give up their trade union posts in order to advise the corporations on how to avoid disputes. In short, the public corporation was " nothing but a plan for the formation of a capitalist trust."[1]

The statement that the Communist Party opposed the development of the public corporation must, however, be qualified. It opposed not so much the administrative form as the fact that it was put forward by the Labour Party as a method of socialisation. In British Communist literature there is little specific on the question of industrial organisation under socialism but it is possible to gain a general impression of the organisation envisaged from the unofficial book, "Britain Without Capitalists," published in 1936 by a group of anonymous economists, scientists and technicians. The picture of Soviet industrial administration which it paints is, apart from the substitution of a Soviet for a Parliamentary political structure, surprisingly like the one painted by the Labour Party. In the coal industry, for example, the authors envisage a national Coal Council subordinate to a Central Commission for Power and Supply Development together with regional productive units which would be given a considerable degree of financial autonomy. The term " public corporation " is not used but it is evident that the authors were thinking in terms of administration by specially constituted bodies rather than by departments directly under the control of the State. The coincidence is, however, less surprising when one recalls the development in the Soviet Union of State Trusts for the management of the basic industries—a development which Messrs. Shinwell and Strachey in their memorandum had cited in support of their own scheme.

At the same time it would be unwise to assume that Communist public corporations would have operated in the same way as the Labour Party corporations were intended to operate. It is impossible to neglect the fact that the real organ of government in a soviet society is the Communist Party rather than the soviets. As an instrument of government, the party would permeate " every institution of a Workers' State

[1] " The T.U.C. and the Cotton Industry "—*Labour Monthly*, July, 1935.

with common methods of work and with a common will and purpose."[1] The independence of the soviet form of public corporation might, therefore, in practice, be more apparent than real.

Less ambivalent opposition to the public corporation came from the I.L.P. which in the crucial period 1926–1932 succeeded in transforming itself from a constitutional Parliamentary party into a semi-revolutionary party—a transformation which finally led to its decision in 1932 to disaffiliate from the Labour Party. Even before this decision had been taken, however, the I.L.P., as a party, had registered its opposition to the policy of placing public services " wholly in the hands of experts and business men " through public corporations which might be divorced altogether from effective political control.[2] After disaffiliation when the I.L.P. moved rapidly towards a conception of political and industrial organisation by means of Workers' Councils, this opposition to the public corporation became more implacable. When in 1939–1940 the party, sadly reduced in numbers, was discussing with the Labour Party the possibility of reaffiliation, Fenner Brockway, for the I.L.P., singled out the " Public Utility Corporation " as one of the major differences of policy, apart from the question of war or peace, which divided the two parties.[3]

The opposition of the third important element, the U.P.W., is in some ways more interesting and illuminating than that of either the Communist Party or the I.L.P., in view of the fact that the union has always accepted the premiss that socialism must be established by constitutional means. In addition, its opposition provides an element of irony. The union served members who collectively had had the longest experience of a nationalised service. Yet at the same time as thought in the Labour Movement was veering towards the public corporation, the union was forced to request the help of the T.U.C. and two former Labour Postmaster-Generals

[1] John Strachey: *The Theory and Practice of Socialism*, 1936, p. 188.
[2] *Annual Report of the Labour Party*, 1931, p. 203.
[3] *Report of the National Administrative Council of the I.L.P.*, 1940, p. 18.

in resisting an agitation to transform the Post Office into that same form of organisation !

The prime mover in this agitation was Viscount Wolmer who had been Assistant Postmaster General in the 1924–1929 Conservative Government. Criticising the Post Office for its lack of enterprise, especially in the matter of telephone development, Wolmer argued that the service should be reorganised on business lines as a Public Utility Corporation, controlled by a Board of Directors with a permanent Postmaster-General as Chairman.[1] Wolmer's conception of a public corporation was much nearer to that of a non-profit making joint stock company with a statutory monopoly than to the Labour Party's conception. But, presumably, if the basic idea was sound, it was open to the Labour Party to suggest amendments to meet its objections on that score. Wolmer's agitation attracted considerable support from Conservative and Liberal M.P.s, the outcome of which was the Bridgeman Committee of Enquiry, 1931. This Committee after listening to the evidence of the T.U.C. and the U.P.W., among others, turned down Wolmer's proposal on the ground that " in the public interest " the existing system of Parliamentary control was essential in a business of such a national character.[2]

It may seem to call for an explanation that the T.U.C. should lend its support to the opposition of the U.P.W. when in the same year it was recommending the public corporation form for other industries. It is clear that the idea of a public corporation for the Post Office, although not in the form suggested by Wolmer, was attractive to certain Labour protagonists of the public corporation. Mr. Morrison was careful to defend the present arrangement but he asserted, nevertheless, that he " would not die in the last ditch to preserve the present organisation of the Post Office as a State Department."[3] Mr. Attlee, who had been Postmaster General for a period under the Second Labour Government, was as critical as Wolmer of the political control exercised by Parliament. He proposed

[1] cf. Viscount Wolmer, (later Lord Selborne) : *Post Office Reform*, 1932.
[2] *Report of the Committee of Enquiry on the Post Office*, Cmd. 4149/1932, p. 40.
[3] *Socialisation of Transport*, pp. 135–6.

that the department should be administered by a non-Parliamentary Postmaster General or by a Board appointed for a number of years, Parliament laying down the general lines of policy—practically a public corporation in all but name.[1] However, the unanimous rejection by the postal workers of the public corporation idea made open espousal of it impossible. Whatever might be the virtues of the newly chosen instrument it was hardly practicable for Labour spokesmen to insist on it against the avowed wishes of the workers in the service. This course was made easier by the fact that the service was already nationalised and by Wolmer's suggestion that the Post Office should be a business run by business men and possibly financed in the future by private capital. In defending the Post Office Department Labour supporters could thus argue that they were defending the principle of public ownership. In any case, the T.U.C. had found a formula to dispel all charges of inconsistency. In its 1932 report on the Control of Industry, it blandly placed the Post Office in the same category as public health, education and foreign affairs—and labelled it a governmental service "obviously different in kind" from such commercial services as transport and the provision of fuel and power.[2] A perspicacious critic, John Cliff, might point out that unlike other governmental services the Post Office was a remunerative undertaking and accuse the General Council of attempting to confuse Congress,[3] but it could safely be assumed that the majority of delegates would turn a blind eye towards this difficulty.

The objections of the postal workers—or rather, that section of them organized in the U.P.W.—to the public corporation went much further than is evident from the memorandum submitted to the Bridgeman Committee. They objected not merely to a public corporation for the Post Office but to the whole idea of administering industries through public corporations. This objection derived from their continued adherence to Guild Socialist doctrines which they had adopted in their

[1] "Post Office Reform"—*The New Statesman and Nation*, 7.1.1931.
[2] *T.U.C. Report*, 1932, p. 210.
[3] *ib.* p. 390.

constitution at the time of the formation of the Union in 1920.[1] They were as critical as the protagonists of the public corporation—indeed, even more so—of management through ordinary State Departments. "State industry run by bureaucratic management," wrote Francis Andrews, the editor of their journal, *Post*, "is enough to make the keenest socialist fear for Socialism."[2] Only through Parliament, they thought, could the whole country's resources be united and only through Parliament could the working class enter into control of industry. Without Parliamentary control, they feared that there would be no "national and integral plan of industry and development under the control of the people."[3] To place industry in the hands of public corporations would be to place power in the hands of irresponsible bodies which could practically determine the economic destinies of the country. The new socialism in fact looked very much like advanced capitalism: "It might be described as 'Capitalist' ass in 'socialist lion's skin'."[4]

In place of either the Public Corporation or the State Department, the U.P.W. proposed the establishment of a Postal Guild, authorised by Parliament to manage the Post Office as a self-governing service. As a step towards this end, they drew up in 1933 a scheme providing for the administration of the service by a Board "composed of an equal number of State nominees and of nominees of the Trade Union or Unions, the Postmaster to preside and have a casting vote"[5] —a scheme reminiscent of the Miners' Bill of 1919.

It would be a mistake to overemphasize the importance of the U.P.W.'s opposition to the general trend of thought in the Labour Movement—although this opposition has

[1] *Post*, 22.5.1920.

[2] *ib. Post*, 9.8.1930.

[3] *ib.* 12.12.1931.

[4] Rowland Bishop in the presidential speech to the annual conference of the U.P.W., 1932—*Post*, 28.5.1932.

[5] Republished in G. D. H. Cole and W. Mellor: *Workers' Control and the Self-Government of Industry*, 1933. For a discussion of this proposal see Basil Morris: Workers' Control in the Post Office, *Socialist Review*, March, 1934.

persisted up to the present day.[1] Postal unions have always tended to be more concerned with internal Post Office affairs than with events taking place within the world of labour as a whole and the effect of the Trades Union and Trades Dispute Act 1927 was to minimise what influence they did possess inside the trade union movement. Nevertheless, the opposition of a union representing a large number of the non-engineering staff of the Post Office[2] deserves to be more widely known and, in addition, serves to remind us how far the Labour Movement has moved from the position it held with regard to nationalisation in the early 'twenties.

Neither the opposition of the Communist Party and I.L.P. nor that of the U.P.W. had any noticeable effect on official Labour Party and T.U.C. policy. By 1935, when foreign affairs began to overshadow domestic policies, the public corporation had taken on the status of an accepted idea within the Labour Movement as a whole—a status reinforced by a number of subsequent academic studies on the subject.[3] It is true that the Parliamentary Labour Party criticised the establishment of the British Overseas Airways Corporation in 1939 but the gravamen of its charge was that the new corporation was not sufficiently independent of the Air Ministry: it was not a department of State but nor was it at all comparable to the L.P.T.B.[4] In the later stages of the war, when the Labour Party and the T.U.C. began to formulate their reconstruction programme, there is no evidence to suggest that the policy of socialisation by public corporation was

[1]cf. H. A. Clegg: Guild Socialism in the Post Office, *Public Administration*, Summer 1950.

[2]The Post Office Engineering Union has consistently opposed the U.P.W.'s proposals for joint control.

[3]Notably the New Fabian study edited by W. A. Robson: *Public Enterprise*, 1937; T. O'Brien: *British Experiments in Public Ownership and Control*, 1937; and L. Gordon: *The Public Corporation in Great Britain*, 1938.

[4]349 H.C.Deb. 5s. Cols. 1847–9.

seriously reviewed.[1] The post-war reconstruction plans followed closely the pattern of the nationalisation schemes drawn up between 1932 and 1936 and no voices were heard at Labour Party Conferences or at Trades Union Congresses challenging the " chosen instrument." Belief in the possibilities of the public corporation was at its zenith.

Birmingham. G. N. OSTERGAARD.

[1]The T.U.C.'s *Interim Report on Post-War Reconstruction*, 1944, contained a notable re-endorsement of the public corporation idea. It was, however, recommended specifically for those industries scheduled for priority nationalisation—fuel and power, transport and iron and steel—and not, as in the 1932 Report, for commercial services generally.

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Some Notes on Liquidity Preference[1]

"To say that the rate of interest on perfectly safe securities is determined by nothing else but uncertainty of future interest rates seems to leave interest hanging by its own bootstraps."[2] In this famous passage Professor Hicks expressed his dislike of bootstraps. He sought to find a line of escape, based on explaining long-term rates of interest "in terms of speculation on the future course of the short rate,"[3] rather than of the long-term rate itself. The same line of escape has been explored by Mr. Kalecki,[4] Mr. Kaldor,[5] and others. Mr. Harrod is "inclined to think that this account of interest hanging by its own bootstraps is an exaggeration."[6] In following Mr. Harrod's lead against the Hicks school, I find myself in well-assorted company, that of Sir Dennis Robertson[7] and Mrs. Robinson.[8] (Sir Dennis Robertson, while rejecting this particular line of escape from the bootstraps view, does feel that "liquidity preference, if the phrase must be kept, needs emancipation from the prison of the 'speculative motive,' where it was set to work to grind out a 'boot-strap' argument the objections to which have never been met."[9] The part of the speculative motive will be discussed later in these Notes. At the moment I am concerned, in harmony with Sir Dennis Robertson, with an examination of the line of escape sought by the Hicks school.

[1]Based on portions of two lectures I delivered in the University of Manchester.

[2]J. R. Hicks, *Value and Capital*, p. 164.

[3]*Ibid*, p. 166.

[4]*Studies in Economic Dynamics*, essay 2, and *Theory of Economic Dynamics*, Chapter 7.

[5]N. Kaldor, "Speculation and Economic Stability," *Review of Economic Studies*, Vol. VII, No. 1, October 1939.

[6]R. F. Harrod, *Towards Dynamic Economics*, p. 66.

[7]D. H. Robertson, "Some Notes on the Theory of Interest," *Money, Trade, and Economic Growth* (published in honour of J. H. Williams), pp. 206-208. (*Utility and All That*, pp. 111-114). Sir Dennis Robertson concerns himself with Mr. Kaldor's formulation rather than with that of other members of the school.

[8]Joan Robinson, "The Rate of Interest," *Rate of Interest and Other Essays*, pp. 8n and 18n.

[9]"A Revolutionist's Handbook," *Quarterly Journal of Economics*, February 1950 (*Utility and All That*, p. 79).

In dealing with it, it will be convenient to suppose that all securities are either irredeemable *bonds* or short-term *bills*. A *person*, who owns wealth and holds it in the form of securities or of money, is to be thought of as either an individual or an institution. The *public* consists of all persons but excludes the banking system. And while we are about it we might note that a *bull* is a person who expects the prices of securities to rise, *i.e.*, the rate of interest to fall, while a *bear* expects the prices of securities to fall, *i.e.* the rate of interest to rise. A person will therefore be described as bullish about the rate of interest if he expects it to *fall*, bearish if he expects it to *rise*.

If a person is indifferent between bonds and bills, then, apart from considerations of risk, it must mean either that the two rates coincide and he expects the long-term rate to remain constant, or that the rate (measured as a proportional rate per annum) at which he expects the long-term rate of interest to be rising (*i.e.* the price of bonds to be falling) is equal to the excess of the long-term rate of interest (the rate on bonds, measured as a rate per annum) over the short-term rate of interest (the rate on bills, measured as a rate per annum)—or a similar proportion in terms of an expected fall in the long-term rate of interest if the short-term rate is higher than the long-term rate.

We can now proceed to what must be common ground, whether one is a member of the Hicks school of thought or not. If there is a unanimous view held with complete conviction by everybody as to how rates of interest are going to behave through time at all dates in the future, there must be a unique correlation between the expected time pattern of the long-term rate and that of the short-term rate, so that as at every moment of time in the future the excess of the expected long-term rate over the expected short-term rate is equal to the expected rate of change of the long-term rate. In fact, complete unanimity, although a sufficient condition for this proposition, is not a necessary condition. What is required is not necessarily complete unanimity but the existence of a sufficient mass of like-minded persons, all holding the same views with

complete conviction.[1] If this homogeneous mass of opinion is sufficiently large in terms of wealth, and if it is so placed in the hierarchy of varying views about the behaviour of rates of interest (in relation to the supply of bonds, on the one hand, and of bills, on the other hand, to be held by the public), that both some of the bonds and some of the bills must necessarily find a home within this homogeneous mass, then the proposition is correct. If, on the other hand, the position is such that this homogeneous mass hold *either* nothing but bills *or* nothing but bonds, *either* all the bonds *or* all the bills being held by members of the public who hold different views, then the proposition is not correct.

The important point is that it is no good if it is just one individual who thinks that he knows definitely what is going to happen. For if he also knows that others hold views different from his own and if he believes that they are certain to be proved wrong, he will expect to profit by their mistakes. He will therefore expect to be at some dates in the future in bonds and at other dates in bills, and only at rare moments to be indifferent between them. For such a person no relationship can be established between the prospective prices and changes in the prices of bonds and bills.

In any case, the relationship which holds good when there is unanimous conviction on the part of a large body of the public cannot be imbued with any causative significance. It is merely a statement of necessary consistency. But it would be wrong to argue that the members of the Hicks school go so far as to assume a unanimous state of completely confident belief. Different members of it present their views in different ways, and various complications are introduced to render the treatment more realistic. It seems to me, however, that the essence of the treatment is to examine the margin of indifference between bonds and bills. There is a particular person who happens at the moment to be indifferent whether he holds bonds or bills. The argument is that it therefore follows that his expectation of the time pattern of the short-term rate is actuarially equivalent to the actual long-term rate of interest.

[1] *cf.* J. R. Hicks, *op. cit.*, p. 170.

The first point to notice is that the changes which have to be considered are calculated by their very nature to cause a shift in the identity of this marginal person who is indifferent between bonds and bills. What is at issue, for example, is the way in which banking policy influences the long-term rate of interest. If the banking system buys securities from the public it will almost certainly, except in a coincidental borderline case, affect the relationship between the quantity of bonds and the quantity of bills held by the public in such a way as to shift the margin between them. This is even more obviously the case if the banking system operates by altering the proportions in which it holds bonds and bills rather than the quantity of the two taken together. If the identity of the person who is marginal between bonds and bills alters, the relationship between the long-term and expected short-term rates depends on expectations different from those underlying the relationship in the original position. Nor, if risk is allowed for, is it a matter purely of expectations based on the best guess of the person concerned. Different individuals react to risk in different ways (widows and orphans prefer bonds, bankers prefer bills). Unless here again there is a very dense concentration on the margin, a shift in the margin will involve a change in the relevant expectations and a change in the nature of the relevant relationship between the expected behaviour of prices of different securities as a result of the change in the character of the person on the margin.

So far I have been content to undermine the outer fortifications of the Hicks school. I now come to the major assault. It is most easily delivered by considering Mr. Kalecki's formulation of the " anti-bootstrap view ": " Imagine a person or enterprise considering how to invest its reserves. The security holder is likely to compare the results of holding various types of securities for a few years. Thus, in comparing the yields he takes into account the expected average discount rate over this period . . . and the present long-term rate of interest."[1] But there is absolutely no reason why this person

[1] *Theory of Economic Dynamics*, p. 80.

need take it for granted that if he decides at the moment on bills, he need renew the bills when they mature. He may have it in mind that when the bills mature he may decide to put the proceeds into bonds. All that he is concerned with is what will happen during the lifetime of the *bills*. He is therefore concerned with the probable behaviour of bond prices during the lifetime of the bills but not with anything beyond that span. The Hicks school seem to argue as though a decision to hold bills at the moment implied an indissoluble contract to remain in bills in perpetuity and as though a decision to hold bonds at the moment implied an indissoluble contract never to sell the bonds and switch into bills. If a person happens at the moment to be marginal between bonds and bills it does not mean that he would remain marginal if he was told that any decision in favour of one or the other would bind him under such an indissoluble contract. Alternatively, it seems to be implicity assumed under the Hicks theory that everybody who is to-day marginal between bonds and bills must, by the same token, expect to remain marginal for all time. Neither postulate has anything to recommend it. For example, it might happen that a particular individual, at a time when bonds yield a considerably higher rate of interest than bills, thinks that the price of bonds is going temporarily to fall even lower, and he will therefore be prepared for the moment to accept a low rate of interest on bills and to forgo the higher rate on bonds. It is perfectly true that if he believes that the bill rate is going permanently to remain low, it is extremely likely that he will believe that the bond rate will ultimately come down into line. (This will only not be so if he regards the greater part of the public as likely for all time to persist in taking the wrong view.) It does not, however, follow that he may not look forward to a period in the near future in which the discrepancy between the two rates of interest will actually become even wider. If I understand the Hicks view correctly it suggests that the only thing which could keep this person in bills is the prospect of the bill rate in the future rising above the present bond rate of interest, so as to secure that

bills, despite the relatively low rate which they offer currently, will be as attractive as bonds.

It is reasonable to suppose, in a world in which different persons hold different views and none of them hold any views with complete conviction, that those who are to-day marginal between bonds and bills will expect that shortly somebody different will become marginal who at present entertains different expectations from their own. The point at issue is of great practical importance. It would seem to follow from the Hicks view that a change of monetary policy can affect the long-term rate of interest only by influencing the expectations of the public as to what the short-term rate is going to be at various dates in the future. It is true that normally a rise in short-term rates will cause the public to expect the persistence into the future of rather higher short-term rates than would otherwise have been the case. This will bring about—in a causative sense—an upward revision of expected long-term rates of interest, since the long-term rate of interest at every moment of time is known to be related to the short-term rate actually ruling at that time. This is not really a concession to Professor Hicks, as the causation is quite different from that envisaged by him, and it does not really amount to saying more than that the long-term rate of interest is influenced by expectations of banking policy. But even if we assume away all such repercussions of expectations of the future behaviour of short-term rates of interest, we are still left with important—and indeed major—influences of current banking policy on the long-term rate of interest.

The simplest case to take is that in which the banking system simply buys bonds from the public. The result is a change in the position of the margin between bonds and bills—in the identity of the person who is indifferent between them. Since there is no change in the quantity of bills held by the public the position of the margin between bills and money is unchanged. (This is on the assumption that there is no appreciable margin between money and bonds: the removal of this assumption provides an interesting exercise but we leave it on one side.) There is no change therefore in the bill

rate. The fall in the bond rate is such as to re-establish the relationship between the excess of the bond rate over the bill rate and the expectation on the margin of the rate of change in the bond rate. The fact that the person on the new margin is more bullish of bonds than was the person on the old margin means a fall in the bond rate so as to accord with this relationship. Allowance has to be made for the element of risk involved in predictions of the bond rate, differences between the two persons in the valuation of the risk, and differences in their attitudes towards risk. Of very great importance also is the effect of the change in the bond rate on expectations of what it is going to be—a factor which will be discussed below. The point here is that expectations about the bill rate come into the calculation only in so far as they influence expectations about the bond rate. If the bill rate does not itself fall there seems, in any case, no reason why the expected bill rate should be lower than it was, and this would mean that according to the Hicks point of view there is no reason why the bond rate itself should fall.

Or let us take a case in which the banking system adds to its portfolio exclusively in the form of bills. The bill rate is reduced and the bond rate falls too in accordance with the relationship between the difference between the two rates and the expected rate of change in the bond rate. (In this case there is no change in the position of the bond-bill margin if there is no appreciable margin between bonds and money.)

Or let us take the effect of a change in the composition rather than the size of the banking system's portfolio, bills being bought from the public and bonds sold to them in their place. The result is a fall in the bill rate and a rise in the bond rate, and the determination of the magnitude of the changes can easily be worked out in terms of the various margins. If the Hicks school want in this case to explain a rise in the bond rate they must postulate that whilst the actual bill rate falls the expected bill rates rise. Their logical position is, however, that neither the bond rate nor the bill rate is altered. The fact that in the real world the two rates will be moved in opposite directions testifies that we live in a world of doubt

and of disagreement and one in which different persons not only take different views and are influenced by different degrees of conviction, but are sensitive to risk in different ways. There is no factual basis for assuming that the relevant elasticity of substitution is infinite. Both blades of Marshall's pair of scissors must be allowed freedom of movement,—a change in the position of the margin, and of the identity of the person situated on it, carries with it a significant change in all the relevant expectations and dispositions.

As I have indicated, the whole point is that a decision to go long rather than short, or *vice versa*, is not indissoluble. When a bill is bought rather than a bond the only relevant expectations determining the decision is what the bond rate will be when the bill matures. That expectation is certainly related to the expectation of what the bill rate will itself be at that same date. Furthermore, the expectation of what the bond rate will be when the bill matures is related in its turn to expectations of what the bond rate will be at more distant dates, and these in their turn are related to expectations of what the bill rates will be at those same dates. All this is, however, a very different thing from saying that the bond rate *depends* on expectations about the future of the bill rate itself, rather than of banking and monetary policy generally. Professor Hicks tries to reconcile the two different views, but only by appealing to the necessity for consistency between the two different sets of expectations,[1] which brings us back to an imaginary world of expectations held with unanimous and complete conviction. Much the same comment applies to Mr. Kaldor's statement that "the expected long-term rate . . . depends on the average of (expected) short rates."[2]

II

One object of this preliminary disquisition is to clear the way for the simplification of the subsequent treatment. It is a great convenience if one can conduct the discussion in terms only of a long-term rate of interest—of assets and securities which are perpetual in character and of money on

[1] J. R. Hicks, *op. cit.*, p. 152.
[2] N. Kaldor, *loc. cit.*, p. 13n.

which no interest is paid. I propose therefore to assume away the existence of short-term securities, or, indeed, of any securities which are not irredemable. This simplifying assumption involves a serious departure from reality, but if what has been said so far is justified nothing fundamental is lost. Of course the short-term rate of interest will still remain lurking in the picture in a certain sense, in the guise of expectations about the behaviour of the long-term rate itself, but these are subjective and personal to each individual concerned and are obscured by risk and uncertainty.

The banishment of bills need not carry with it a continued exclusion of all means of holding wealth other than bonds. Not only can we accept the existence of different kinds of bonds and of preference shares, involving in different degrees the risks of enterprise, but we can also accept ordinary shares, and indeed physical assets themselves in so far as they are held directly by the owners of wealth and not through the intervention of securities. This means however that it is necessary to think in terms of a complex of rates of interest, each associated with a particular kind of risk of enterprise, and when reference is made, as a matter of shorthand, to *the* rate of interest, it is the complex which is intended to be indicated.

The admission of ordinary shares into the analysis raises two questions which, though they are very important, would take up too much space to deal with here. The one question (which applies with even more force to physical assets themselves) is in what sense an ordinary share can and should be regarded as though it was an irredeemable security with an unlimited life. The second question is what is the rate of interest on an ordinary share : obviously it is in some sense the expected yield reckoned at the market price of the share ; but whose expectation is to be taken as the basis (this question applies also to physical assets held directly), and is it the expectation of dividends or of earnings, or of something between the two ?

Leaving these difficult questions on one side, we see that " the rate of interest," in a given state of expectation of profits, is the inverse of the price level of securities. Now the total wealth of the community (together with its National

Debt) is represented by the total amount of securities in existence and by physical assets held directly. Part of the securities are held by the banks themselves; part of the securities held by the public is financed by the banks; and banks finance the holding of physical assets by businesses, thus reducing the supply of securities. The extent to which the banks hold securities, finance the holders of securities, and finance the holding of physical assets, is equal to the quantity of money. The quantity of money is the means by which the public hold that part of their wealth which is looked after by the banking system. The prices of securities are such as to secure a home for all of them with the public, apart from what the banking system looks after itself. That is the essence of the Keynes liquidity preference theory of the rate of interest, the supply and demand for money being the obverse of the supply of securities in the hands of the public and the demand for securities by the public.

It is not intended in these Notes to discuss the various ways in which " the real forces of productivity and thrift " exercise an influence on the rate of interest, but an important point about the Keynes theory is that these forces exercise their influence through their effect on liquidity preference and on the quantity of money. When the quantity of money is increased the consequent effect on the rate of interest partly depends on how much activity is increased as a result of the fall in the rate of interest, and how much wages and prices are raised. These repercussions—which involve the demand for money as a means of exchange—depend on the operation of " the real forces." The fall in the rate of interest sets up a complicated time pattern of " real " reactions over an indefinite future period. The repercussions are the more important the longer the period of time allowed for their operation, and they are relatively the more important the smaller the elasticity of substitution between money and securities. (In the limiting case in which this elasticity is zero, the liquidity preference theory is compatible with any level of the rate of interest, which is therefore indeterminate except in so far as the real forces operate.)

To isolate the problems at issue, the elasticity of the demand for money will be examined in these Notes as it would be if there were no such repercussions on output, wages and prices, and so on the demand for money. It is possible that economy in the operation of the transactions motive (the use of active balances as part of the processes of exchange) may be practised as a result of a rise in the rate of interest. If this possibility is ignored the investigation boils down to a study of the precautionary and speculative motives, and of the interest-responsiveness inherent in their operation. The precautionary and speculative motives for holding money are what, by their operation, provide a home for that part of the total stock of money which is in excess of what is required to satisfy the needs of the active circulation, as determined by the facts of physical activity, wages and prices.

III.

One of the difficulties is to distinguish between the precautionary and speculative motives. In practice the distinction is very blurred. But in principle the precautionary motive can be said to operate in so far as some persons think that the rate of interest is likely to move ; the speculative motive in so far as some persons think that on balance it is likely to move one way rather than the other.

For the purposes of exposition, a person's expectations will be conceived in the form of a probability distribution and his " best guess " is defined as his weighted average expectation.[1] The words " risk," and " uncertainty," are used in the conventional manner as indicating the degree of dispersion of the probability distribution, and the reliability of the probability distribution. The extent of conviction of a person's best guess then becomes a measure of the degree of absence of risk, and therefore of uncertainty as well.

[1]The considerations advanced by Professor Shackle in *Expectations, Investment and Income* are ignored in these Notes. Professor Shackle is mainly concerned with the risks of business investment, which is essentially a " once-and-for-all " operation, and the concept of a probability distribution is perhaps less unhappily applied to expectations about the movements of the prices of securities. (See also G. L. S. Shackle, " The Nature of Interest Rates," *Oxford Economic Papers*, January 1949).

The risk of movements of the rate of interest operates on behaviour in various ways. The operation can be examined by distinguishing between two extremes, though normally every person will be subject to the feeling of risk in a manner intermediate between the two extremes. At the one extreme is the feeling of *income risk*, at the other extreme the feeling of *capital risk*.[1] It is more picturesque than accurate to associate income risk particularly with widows and orphans, and while the feeling of capital risk is experienced particularly by financial institutions, it in fact applies very widely. Income risk operates *par excellence* in a situation in which there is no prospect of capital having ever to be realised. The possibility of having to realise capital generates a feeling of capital risk, which then exists side by side with the feeling of income risk. For each person it is a question not of whether he is subject to the one kind of risk or the other, but which is the stronger, the feeling of income risk meaning, taken by itself, that it is income which matters, and that the fear of some loss of income is not balanced by an actuarially equal prospect of gain, while the feeling of capital risk, taken by itself, means that it is capital which matters, and that the prospect of some loss of capital is not balanced by an actuarially equal prospect of a gain of capital.

In deciding how to distribute his wealth between securities and money each person will have in mind his best guess as to the behaviour of the rate of interest. Let us, for the sake of simplicity, ignore the expenses of dealing in securities. Then if a person's best guess is that the rate of interest is rising at a rate (per annum) which is greater than itself (measured as a rate per annum)[2], this means that if his best guess turns out to be justified he will by momentarily holding his wealth in money be losing less by forgoing income than he gains on the fall in the prices of securities. The

[1]See R. G. Hawtrey, *Capital and Employment*, pp. 216-219, and Joan Robinson, *op. cit.*, p. 9.

[2]This simple formulation turns on abstracting from the effect of taxation of incomes, or alternatively on assuming that capital gains and losses (whether realised or not) are brought fully into account before taxes are assessed. The formulation also assumes the American system of quoting the prices of bonds at all times *ex* all accrued interest.

speculative motive then tells bearishly in the direction of holding money. If his best guess is that the rate of interest is falling, or at least rising less rapidly than itself, the speculative motive tells bullishly in favour of holding securities. In the border-line case in which the person's best guess happens to be that the rate of interest is rising at a rate equal to itself the speculative motive will leave him indifferent between securities and money.

How far this person gives way to the operation of the speculative motive depends on the extent of his feeling of risk and uncertainty about the behaviour of the rate of interest. The greater the conviction with which he entertains his best guess the greater is the weight with which the speculative motive operates. In the limiting case in which his expectation is held with complete conviction the speculative motive operates on his behaviour in a completely unspeculative way—that at least is how it appears to him but of course his conviction may turn out in the outcome to have been wrong. A person who simply " hasn't a clue " as to how the rate of interest is going to move—who thinks it equally likely that it will go up or go down—will have a slight speculative motive for holding securities rather than money, because the one offers income and the other does not.

Now let us consider how the precautionary motive operates and let us begin with a person who feels income risk rather than capital risk. Then if his best guess is that the rate of interest is falling, or rising less rapidly than itself, he will *a fortiori* put everything into securities—the precautionary motive reinforces the speculative motive. But now he will continue to hold all his wealth in the form of securities even though his best guess about the behaviour of the rate of interest is a bearish one provided that it is not sufficiently bearish to start conflicting with the precautionary motive to hold securities, *i.e.* the fear of income loss more than offsets a mild chance of capital loss. If his best guess as to the rate at which the rate of interest is rising is sufficiently bearish to start conflicting with the precautionary motive, dominated by the feeling of income risk, he will hold part of his wealth

in money, but despite his bearishness the precautionary motive will continue to keep him partly in securities. The principle of increasing risk applies and a point of balance is reached between the operation of the speculative and of the precautionary motive: with a given degree of risk and uncertainty, the effectiveness of a given disposition to feel income risk increases with a growing proportion of wealth held in the form of money. Eventually, however, with a sufficient degree of bearishness, the speculative motive will completely prevail and nothing but money will be held.

In the case of a person who feels capital rather than income risk it works the other way round. The precautionary motive now works in the same direction as bearish sentiment, in the direction of holding money, and even if the person feels bullish, on the basis of his best guess, he will be entirely in money provided that the degree of bullishness is not sufficiently great to start conflicting with the precautionary motive, *i.e.* the fear of capital loss more than offsets a mild chance of capital gain. With a higher degree of bullishness he will be partly in money and partly in securities, and if the bullishness is sufficiently great completely to outweigh the feeling of capital risk nothing but securities will be held.

The intensity with which the precautionary motive operates depends partly on the lack of conviction with which the best guess about the behaviour of the rate of interest is entertained and partly on the strength of the disposition to feel the particular kind of risk—income risk or capital risk as the case may be.

According to this presentation of the theory, a person whose best guess it happens to be that the rate of interest is rising at a rate equal to itself, so that the speculative motive is inoperative, will be entirely in securities if he is subject to a feeling of income risk and entirely in money if he is subject to a feeling of capital risk. In practice, however, both kinds of feelings of risk will, as has been indicated, operate in conjunction. Unless the disposition to feel the one kind very heavily outweighs the disposition to feel the other kind, the

two will balance in such a way that both securities and money are held. The greater the proportion of money the greater the effectiveness of a given disposition to feel income risk and the smaller the effectiveness of a given disposition to feel capital risk; and *vice versa*. This again results from the principle of increasing risk, which applies separately to each kind of risk. A thoroughgoing widow-and-orphan will not hold money at all, except for the purpose of transactions, unless she is sufficiently bearish for her feeling of income risk to be at least partly overcome. But a widow-and-orphan who has a lively fear of appendicitis and a deep horror of the National Health Service will keep part of her wealth in the form of money even though she is not bearish at all—provided that she is not too bullish.

The upshot is that over a certain range of best guesses about the behaviour of the rate of interest, covering both bullishness and bearishness, securities and money will both be held simultaneously, more of one or more of the other being held respectively according to the degree of bullishness or bearishness, as the case may be, and according to the relative strengths of the disposition to feel income risk and capital risk. Furthermore, the greater the lack of conviction with which the best guess about the rate of interest is entertained, the greater the amount of money that will be held if the best guess is bullish and the greater the amount of securities if the best guess is bearish; in the former case money, and in the latter case securities, are held under the influence of the precautionary motive, playing against the speculative motive, in the former case the operation of the precautionary motive being dominated by the feeling of capital risk and in the latter case by that of income risk.

If this treatment demonstrates anything it demonstrates how impossible it is to identify the quantity of money held on account of the speculative motive as something different from the quantity of money held on account of the precautionary motive. The two motives do not act additively: the demand for money is a complicated outcome of their interplay.

The importance of all this lies in its implications for the elasticity of the liquidity preference curve, and in particular the interest-responsiveness of the amount of money held on account of the operation of these two motives. The thesis which I want to advance is that it is to the speculative motive that we must look as the source of interest-responsiveness and not at all to the precautionary motive. To demonstrate this, it is necessary to take the case in which the precautionary motive operates in isolation. This is the case of a person whose best guess it happens to be that the rate of interest is rising at a rate equal to itself (our sophisticated substitute for the person who " hasn't a clue "). Let us suppose that, as a result of the inter-play between the feelings of capital risk and of income risk, he holds some money as well as some securities. Now we have to suppose that the rate of interest is lowered and, in order to exclude the operation of the speculative motive, we have to imagine that with the lowering of the rate of interest goes a change in the person's expectations such that he now expects the rate of interest to rise at a rate equal to the new (lower) rate of interest. The question is what happens to the quantity of money held. On the one hand, the yield offered by securities, and forgone by holding money, is reduced. But, on the other hand, the rate of fall in security prices, expected on the basis of the best guess, is reduced equally. It follows that the position of the margin on which income risk and capital risk balance is left unaltered. The amount of money held is completely unresponsive to a change in the rate of interest so long as it is only the precautionary, and not the speculative, motive which operates. We eliminated the speculative motive by postulating in effect that when the *actual* rate of interest is lowered the *expected* rate of interest is lowered in an even greater proportion, so as to keep the expected rate of rise of the rate of interest equal to the rate itself. (If, as in fact is almost certain to happen, the expected rate of interest falls less than this—*e.g.*, if it falls only in the same proportion as the actual rate, so that the expected rate of rise is left unaltered, and *a fortiori* if the expected rate falls even less

than this, or not at all—the speculative motive comes into operation, and the amount of money held increases. This is discussed below.)

It is then to the speculative motive that we have to look if we believe in some degree of interest-responsiveness—if we believe that, even apart from the operation of the real forces, a small change in the quantity of bank credit does not cause violent changes in the rate of interest. This contention, if it is valid, goes even further than Professor Fellner's statement that " if the liquidity provisions of the public and of the commercial banks are mainly of the contingency variety [as opposed to speculative], the elasticity of the L function is not likely to be high."[1] It is in one sense in line with Keynes' contrast between the amount of cash " held to satisfy the transactions and precautionary-motives," M_1, which " mainly depends on the level of income," and " the amount held to satisfy the speculative motive," M_2, which " mainly depends on the relation between the current rate of interest and the state of expectation."[2] But I am suggesting a distinction between the precautionary and speculative motives which deviates from Keynes' and, according to my treatment, it is not possible to say how much of the total quantity of money is held on account of the one motive and how much on account of the other. Sir Dennis Robertson criticises Keynes for failing to link up " the rate of interest with what Mr. Keynes, including it somewhat paradoxically under the heading of ' active ' money, calls the money held for ' precautionary ' purposes " and says that " in this respect the older Cambridge theory is kinder to ' liquidity preference ' than is Mr. Keynes himself."[3] I am in the sad position of wanting to frustrate Sir Dennis Robertson's effort to find a firmer basis for the liquidity preference theory than he feels the speculative motive provides.

[1]W. Fellner, *Monetary Policies and Full Employment*, p. 182.

[2]Keynes, *General Theory of Employment, Interest and Money*, p. 199.

[3]D. H. Robertson, " Mr. Keynes and the Rate of Interest," *Essays in Monetary Theory*, p. 25. See also H. G. Johnson, " Some Cambridge Controversies in Monetary Theory," *Review of Economic Studies*, 1951-2, No. 49, p. 102, and Sir Dennis Robertson's reply, " Comments on Mr. Johnson's Notes," *loc. cit.*, p. 109.

To say that the precautionary motive operates in a manner which is completely inelastic to the rate of interest is not to say that it plays no part in the monetary determination of the rate of interest, any more than the same would be true of the transactions motive. Given the total quantity of money, both determine how the speculative motive has to operate in order to ensure that there is a demand for all the money in existence. But we have to look to the speculative motive for the interest-responsiveness—the elasticity of substitution—which is the necessary basis for any determinateness in the monetary determination of the rate of interest.

Nevertheless the precautionary motive has an important part to play. Let us assume henceforth that the situation is such that the precautionary motive would, if it operated in isolation (*i.e.* if the best guess of the person or persons concerned was that the rate of interest was rising at a rate equal to itself), result in money being held as well as securities. In other words, we assume henceforth that the disposition to feel income risk does not for anybody completely outweigh the disposition to feel capital risk but that it is a matter of a balance between the two. Then what the precautionary motive does is to give the speculative motive something to bite on. The speculative motive, if prompted by a bearish best guess, causes an increase in the amount of money held. While if it is prompted by a bullish best guess, it causes the amount of money held to be so much the less, but *some* money will still be held unless either the degree of bullishness inherent in the best guess is great or this best guess is entertained with great conviction. Two important considerations emerge.

The first becomes clear if we visualise an economy in which each person estimates the behaviour of the rate of interest with complete conviction. There is no risk or uncertainty (though unless everybody thinks alike most persons are bound to turn out to be wrong) and there is therefore no precautionary motive. Each person holds all his wealth *either* in the form of securities *or* in the form of money, unless he happens to be marginal between the two (because he happens to believe that

the rate of interest is rising at a rate equal to itself). If everybody is alike in his views about the behaviour of the rate of interest,[1] the demand for money is infinitely elastic : a change in the quantity of money has no effect on the rate of interest. A finite elasticity is associated with heterogeneity of opinion, and the elasticity is smaller the greater is the degree of heterogeneity.[2] The analysis is conveniently conducted in terms of Keynes' " two views."

Risk, and uncertainty, attaching to the behaviour of the rate of interest, by bringing into play the precautionary motive, create intensive margins, one to be imagined inside the mind of each person concerned, which operate alongside the extensive margin. Lack of conviction on the part of individuals has the same effect on the shape of the liquidity preference curve as heterogeneity among them. The elasticity of demand for money is a function of both.[3] It is as though " two views " operated inside each person's mind, one being responsible for his holding securities and one for his holding money.

The other consideration emerging from our treatment of the precautionary motive is related to a difficulty of exposition of the Keynes theory if one tries to present it in terms of complete conviction. The difficulty is that once a person is a bull, so that in any case he holds all his wealth in the form of securities, it does not make the slightest difference to the rate of interest (given the quantity of money) how violent a bull he is, for he cannot do more for the price-level of securities than

[1] A *sufficient* condition for what follows. The *necessary* condition is a high concentration, measured in terms of wealth, in the neighbourhood of the margin, of persons with identical views : idiosyncratics can be ignored if their idiosyncracies are based on complete conviction.

[2] It depends on the extent of the change in views of the person on the margin when the position of the margin is shifted by a given amount measured in terms of wealth.

[3] The nature of the function is such that homogeneity and the elasticity of the curve exhibiting the principle of increasing risk supplement one another, the elasticity of the demand for money being greater than each of the magnitudes it would assume if only one of these factors contributed to it. It is a general proposition that diminishing returns which arise simultaneously on extensive and on intensive margins produce a net degree of diminishing returns which is less than either taken by itself.

put all his wealth into them ; and that he does anyway even if he is only a mild bull.[1] The same is true, on the other tack, of bears who are completely convinced bears—the degree of their bearishness is then without significance. For these ideas to be applied to the community as a whole, an increase of bullishness or bearishness is to be interpreted—unless it is to be accompanied by a widening of the " two views "—as not only increased bullishness, or bearishness, of those who were already bulls, or bears, but also as a conversion to the bull tack of some who were previously mild bears, or to the bear tack of some who were previously mild bulls. Increased bullishness, in this sense, will, however, have the effect of lowering the rate of interest only so long as there are still some bears to be converted to the bull tack. After the rate of interest is already so high that practically nobody believes that it is going any higher (at least not at a rate greater than itself), everybody is already a bull and increased bullishness of the community as a whole is, like increased bullishness of individual bulls, without effect on the rate of interest. This is the case in which the quantity of money is so low that it is fully looked after by the transactions motive, the speculative motive does not operate, and unless and until the monetary forces are moulded by the real forces the rate of interest can be anything.[2] A determinate monetary explanation of the rate

[1] It is of course true that the more bullish he feels the more anxious he will be to hold securities on borrowed money. Such loans would obviously have to be short-term if they are to support his view that the long-term rate of interest is falling. They are excluded from our treatment by our arbitrary simplification, which perhaps here even more than anywhere else involves an unjustifiable deviation from the conditions of reality.

In allowing for bank advances we have been inconsistent—at any rate verbally. It is therefore worth noting that additional bank advances made to enable bulls to hold securities have no effect on the rate of interest if they involve an equal reduction in the banks' holdings of securities ; and if they represent a net addition to the amount of bank credit the consequent fall in the rate of interest can be duly associated with the increase in the quantity of money.

[2] Similar indeterminateness prevails when nearly everybody is a bear. But this situation—in which all members of the public hold all their wealth in the form of money—is reached only when the banking system holds or finances all the community's securities, and is therefore more unrealistic, even regarded as a tendency, than the opposite one, in which the banks' assets are no greater in magnitude than the active circulation.

of interest depends—in the case of complete conviction—not only on there being expectations about the rate of interest but also of the expectations taking the form, for an appreciable part of the community, of a belief that the rate of interest is going to be *higher* than it is. So long as an appreciable part of the community expect that the rate of interest is rising (at a rate greater than itself), the greater or lesser prevalence of the belief that it is going to fall can be deemed to show itself in the number of persons who, although by way of exception to the general attitude, take this bearish view, and is thus (if the quantity of money is an independent factor) instrumental in determining the actual rate. But in a situation in which nearly everybody expects the rate of interest to be falling, interest-responsiveness becomes very low—the rate of interest becomes unstable except in so far as the real forces mould the monetary forces in such a way as to impose constraints ;—and the link between the expected rate and the actual rate becomes tenuous.

All this is altered if the behaviour of the rate of interest is subject to risk and uncertainty—if the bullish expectations are entertained with a lack of complete conviction—as will be the case, for example, if the rate of interest is, as a matter of experience, moving on a downward trend but is subject to unpredictable fluctuations about the trend.

Bullishness, expressed in terms of a best guess, can now manifest itself as a diminution from the money balances which the precautionary motive evokes. While asymmetry inevitably arises from the fact that money balances cannot be negative (except in the light of embellishments which are ruled out on a simple presentation), the operation of a precautionary motive for the speculative motive to bite on enables bullishness to exert a negative effect on the quantity of money held under the combined influence of the two motives acting together and this restricts the degree of asymmetry. A general view, subject to risk and uncertainty, about the future of the rate of interest can influence the current rate even though the view is that the rate of interest is likely to be lower than it now is. Monetary determination of the rate of interest does not,

under these conditions, have to be completely abandoned. It is only when the point is reached at which bullishness is so great as completely to outweigh the lack of conviction that the conventional asymmetry, which in varying measure is present at all stages, becomes completely re-established.

IV.

Sufficient has been said to demonstrate the unsuitability of thinking of a schedule of liquidity preference as though it could be represented by a well-defined curve or by a functional relationship expressed in mathematical terms or subject to econometric processes. Keynes himself often gave way to the temptation to picture the state of liquidity preference as a fairly stable relationship, despite his intuitional horror of undue formalism, but his treatment at least can be justified by the need at the time for a forceful and clear-cut exposition if it was to carry any weight at all.

The idea of an at all stable relationship is further undermined when we come now to enquire what underlies the interest-responsiveness inherent in the operation of the speculative motive. In discussing what happens to the amount of money demanded when the rate of interest alters, it is convenient to distinguish analytically between a minor influence and a major influence. The minor influence arises simply because a change in the rate of interest means a change in the degree of sacrifice involved in holding money rather than securities. The smaller is that sacrifice, the further will a given speculative incentive push the margin in the direction of holding money. But if that is the only factor at work, the resulting elasticity of the liquidity preference curve will be quite small. The monetary forces determining the rate of interest will leave the rate of interest rather unstable in response to changes in the quantity of money or, with a given quantity of money, to changes in economic activity, except in so far as they are rather drastically moulded by the real forces. Inasmuch as experience suggests a fairly high elasticity of the liquidity preference curve, quite apart from any influence of the real forces, this must come from the

effect of a change in the rate of interest on the rate at which it is expected to change—in other words, on the actual degree of the speculative incentive itself. This depends on the magnitude of the effect of the change in the rate of interest on the expected rate. The smaller the extent to which a change in the actual rate causes a change in the expected rate, the bigger the effect on the expected rate of change and the greater the extent to which the major influence on the elasticity operates. If the expected rate moves fully in the same proportion as the actual rate, the expected rate of change does not alter and only the minor influence is at work.

An important question is the point of time in the future to which the relevant expectation about the rate of interest should be related. The exposition so far has been based on the idea that it is the instantaneous rate of change which matters. If costs of dealing in securities could be ignored, this would be the correct basis so long as expectations were regarded as held with complete conviction. While a person's immediate expectations will be related to his beliefs about the more distant future, the only thing which is directly relevant is what he expects the rate of interest to be at the next moment of time—say to-morrow. His behaviour is determined by what he expects to happen between to-day and to-morrow, and expectations about later dates do not become directly relevant until to-morrow, when behaviour is decided afresh in the light of to-morrow's expectations about the day after to-morrow. When the device of complete conviction is abandoned, as a move towards reality, the problem becomes much more complex—quite apart from complications due to the costs of dealing in securities. A person will have more conviction about his best guess as to to-morrow's rate of interest than about the rate likely to rule, say, six months hence. But the same absolute error in his estimate of the expected rate of interest will have about one hundred and eighty-two times as much effect on the estimate of the rate of change in the rate of interest if it is governed by the one-day view as if it is governed by the six-month view. The question of the relevant date does not lend itself to any definite answer, but it can be

answered very roughly as the earliest date which is consistent with a rate of change the estimate of which can be relied upon without too much lack of conviction.

This is very relevant to the question of the degree of responsiveness of the expected rate of interest to a change in the actual rate. If nothing very definite is looming up in the future to provide a fulcrum on which expectations can rest, the present will exert a strong influence on the operative expectation. How strong that influence will be depends enormously on the period of time over which a particular rate of interest persists. As Keynes put it, " public opinion can be fairly rapidly accustomed to a modest fall in the rate of interest and the conventional expectation of the future may be modified accordingly ; thus preparing the way for a further movement—up to a point."[1] One of the great difficulties about liquidity preference lies in trying to evaluate the manner in which and the extent to which expectations about the rate of interest are influenced by the actual rate itself and by its past behaviour. The difficulty is illustrated by the contrast between the passage just quoted from Keynes and his reference elsewhere to a " psychological minimum,"[2] or indeed his statement on the same page that the rate of interest " may fluctuate for decades about a level which is chronically too high for full employment ;—particularly if it is the prevailing opinion that the rate of interest is self-adjusting, so that the level established by convention is thought to be rooted in objective grounds."[3] More recently Sir Dennis Robertson,[4] Mrs. Robinson,[5] Mr. Johnson,[6] and others have discussed the question whether there is really any limit to which in the light of experience, given sufficient time, views about the future of the rate of interest will not gradually crumble, provided that the experience is of an economy in which the dying embers of bearish sentiment are not from time to time

[1] *Op. cit.*, p. 204.
[2] *Op. cit., e.g.*, p. 306.
[3] *Op. cit.*, p. 204.
[4] *E.g.*, " Mr. Keynes and the Rate of Interest," *op. cit.*, p. 35.
[5] *E.g., op. cit.*, p. 18.
[6] *Loc. cit.*, pp. 101-2.

rekindled by unexpected and sharp upward jolts to the rate of interest.

What it comes to is that the extent to which the speculative motive operates, and the degree of interest-responsiveness which results from this operation, depends on the circumstances of the particular situation, and, in general, is less the longer is the period of time allowed for adjustment.

V.

Cases in which interest-responsiveness is zero are the cause of a good deal of perplexity. For example, Sir Dennis Robertson[1] complains that Keynes apparently contemplates "that, even if 'idle money' were zero, there would still be some (unexplained) way for total money to be increased and the rate of interest to fall, the growth of incomes following as a consequence." Such a case is properly examined as a *limiting* case rather than as a quite separate type of case. As a matter of mechanism and of causation, the Keynes analysis is valid, though it does leave the rate of interest indeterminate except to the extent that the monetary forces at work are moulded by the real forces so as to impose the restraints with which the operation of the real forces is associated. But for the expansionist repercussions of a fall in the rate of interest, the slightest increase in the total quantity of money would drive the rate of interest down to zero, or lower. This is what Keynes tried to make clear.[2] Sir Dennis Robertson, on the other hand, prefers the "common-sense" view that the expansion results from "the banks performing the primary function of banking, *i.e.* lending money to people who want to make productive use of it."[3] He makes a good case against Keynes for "being so taken up with the fact that people sometimes acquire money in order to *hold* it that he had apparently all but entirely forgotten the more familiar fact that they often acquire it in order to *use* it"[4]; while elsewhere

[1] "Mr. Keynes and the Rate of Interest," *op. cit.*, p. 12.

[2] *E.g.*, to mention a passage which Sir Dennis Robertson actually refers to, *General Theory*, p. 209.

[3] *Op. cit.*, p. 12.

[4] *Ibid.*

Sir Dennis Robertson draws an amusing picture of Keynes' banking system of which " the only function . . . and the only way in which it could add to the supply of money, was the buying of gilt-edged securities from College Bursars and other persons who thought their price would fall later on."[1] Here is a real issue. The pedantic Keynesian answer would be that when a business borrows from its bank this is merely an alternative to its issuing securities to the public, and the result is therefore the same as it would be if it did issue securities to the public and simultaneously its bank bought an equal amount of securities from the public. It has, however, to be recalled that Keynes himself, already in his *Treatise on Money*, attached great importance to what he called the " fringe of unsatisfied borrowers." The result is a lack of uniqueness in the correlation between the quantity of bank credit and its price. In his *General Theory* Keynes took little or no account of this since it would have detracted from the simple elegance of the theory. But it is undoubtedly an important fact that very often a business which is deterred from an act of investment by the high rate of interest or the large sacrifice of profits which its present owners would have to suffer by issuing securities in the market, would be prepared to pay the rate which its bank would charge for an advance, but is unable to obtain the advance simply because of inadequacy of the bank's reserves. This means that the rate of investment is not simply a function of the complex of market rates of interest and prospective yields on shares. The readiness with which the banks can make advances to customers has an influence quite apart from the actual rates of interest which are charged and which rule. And it means that so long as an expansion of bank credit was going on, investment would be somewhat higher than it would be under the influence of the same market rates of interest if they were established with a constant quantity of bank credit.

This is, however, no reason for going to the other extreme and assuming that no investment which is actually financed

[1] " Some Notes on the Theory of Interest," *op. cit.*, p. 202 (*Utility and All That*, p. 107).

by a bank advance would take place if an advance were not forthcoming from the banks. The point at issue involves a complication, and perhaps an important complication, but not a fundamental change of theory. How important the complication is can be assessed only from a knowledge, which at present is inadequate, of the extent and nature of the imperfection of the capital market, and in particular of the peculiar kind of imperfection which is here involved. It is hard to believe that the theoretical basis for the modern approach to the theory of the rate of interest which is alternative to Keynes' stands or falls by the factual importance of this market imperfection.

VI.

In any case the alternative approach does exert a strong fascination. Even some of the staunchest defenders of Keynes are not immune to it. I will conclude by giving two examples of what seems to me to be this kind of heresy.

My first one is taken from Mr. H. G. Johnson's article on "Some Cambridge Controversies in Monetary Theory." Under discussion between Mr. Johnson and Sir Dennis Robertson is the Keynes proposition that an increase in thrift will tend to lower the rate of interest because of its effect in causing a contraction of activity in incomes, thus leading to a reduction in the demand for money. This proposition Sir Dennis Robertson regards as "misleading."[1] Mr. Johnson, mesmerized by the serpent (the reference here is to ideas and not to persons) which it is his aim to scotch, makes an admission which seems to me quite erroneous. According to Mr. Johnson, the Keynes proposition "implicity assumes that the increased saving is being performed in order to build up cash balances—i.e., it relies on a hidden increase in liquidity preference."[2] The implication is that but for this "hidden increase in liquidity preference" the rate of interest would fall anyhow, quite apart from any contraction of activity.

[1] "Comments on Mr. Johnson's Notes," *loc. cit.*, p. 105.

[2] *Loc. cit.*, p. 98.

My other example is taken from Professor A. H. Hansen's most helpful *Guide to Keynes*. In his chapter on " Classical, Loanable-funds, and Keynesian Interest Theories," Professor Hansen defends the neo-classical school against Keynes' assertion that it " had made a muddle of its attempt to build a bridge."[1] A discussion of the nature of Professor Hansen's defence would lie outside the field covered by these Notes. But there is one incidental point made by Professor Hansen against the Keynes theory which is relevant in a discussion of liquidity preference. Professor Hansen denies, what Keynes asserted, that liquidity preference and the quantity of money between them tell us what the rate of interest will be. Professor Hansen's denial is based on the grounds that " there is a liquidity preference curve for each income level. Until we know the income level, we cannot know what the rate of interest is."[2] But from this allegation of circular reasoning, the Keynes theory can be rescued by applying the device of simultaneous equations, as is indeed inherent in the treatments by Professor Hicks and Professor Lerner, of which in fact Professor Hansen makes use in the same chapter. Professor Hansen bases his attack on Keynes' attack on the classical theory. As formulated by Professor Hansen, Keynes' objection to the classical theory reads as follows: " No solution, however, is possible because the position of the saving schedule will vary with the level of real income. As income rises, the schedule will shift to the right. Thus we cannot know what the rate of interest will be unless we already know the income level. And we cannot know the income level without already knowing the rate of interest."[3] This is not, however, a complete account of the Keynes objection. Keynes' point about the classical theory is that whatever may be the rate of interest and the volume of investment, the position of the savings curve (relating the amount saved to the rate of interest) must be such as to cut the investment curve at a point the ordinate of which is equal to the rate of interest which happens to

[1] A. H. Hansen, *A Guide to Keynes*, p. 152.
[2] *Ibid*, p. 148.
[3] *Ibid*, p. 140.

prevail. The rate of interest if left to the classical mechanism cannot be rescued from indeterminacy by applying the theory of simultaneous equations. It is not merely that the position of the savings curve depends on the rate of interest, in the same kind of way in which the position of the liquidity preference curve depends on the rate of interest, but it depends on it precisely in such a way as to involve indeterminacy, as the position of the liquidity preference curve does not.

These may be regarded as relatively trivial issues. But until there is agreement as to the correct manner of using the tool of liquidity preference for dealing with the simpler kind of problem, clarification of the more difficult issues is not going to be easy.

R. F. Kahn.

King's College,
Cambridge.

Statistics of United Kingdom Terms of Trade

During recent years changes in the terms of trade have apparently played a major role in the fluctuating economic fortunes of the United Kingdom. Great attention has, therefore, been paid to the official statistics which measure the terms of trade. In this article I attempt to explain what it is exactly that the official statistics measure, and suggest further supplementary measures of the terms of trade to throw a more revealing light on the United Kingdom's foreign trade position. As will be seen, the statistical material which is used for these alternative measures is in many respects rough and unreliable, and the main purpose of this article is to suggest lines for further investigation and research rather than to put forward firm statistical conclusions.

The Official Statistics

Two sets of official statistics of the terms of trade are now published regularly. One on a monthly basis in the Board of Trade Journal and the Monthly Statistical Digest, the other on an annual basis in the Annual Abstract of Statistics. The monthly figures are derived from a comparison of index numbers of import and export prices ; the annual ones from a comparison of index numbers of the average value of imports and exports. This difference in nomenclature is confusing since both sets of indices are in fact based on average value figures derived from the statistics of merchandise trade included in the Trade and Navigation Accounts.

The main difference between the two sets of indices is in the system of weighting used. The monthly figures use a fixed set of weights based on the trade of the previous year, and the comparison is made with that year as base. At present, trade in 1953 is used for weighting, and changes in ' prices ' and the terms of trade are compared with the average for 1953 as 100, figures being given monthly for 1953 as well as for the current year. The annual figures are not obtained directly

from figures of average value but are derived from the indices of total value and volume which are calculated each quarter by the Board of Trade. Since the volume indices calculated by the Board of Trade are themselves base weighted, average value indices calculated by dividing changes in total value by such indices, will have moving weights related to the current distribution of trade. The quarterly and annual average value indices derived in this way, may therefore, reflect changes in the distribution of trade as well as changes in prices as such. And it was for this reason that the alternative set of indices, on a fixed weight basis, was introduced in 1946.

The base and weights for the monthly ' price ' indices are changed each year to that of the previous year. Each set of indices runs for twelve months, but since figures are also given for the previous twelve months, there are monthly figures for two years on each successive base and system of weights. Monthly figures, with 1953 as base, are available for 1953 and 1954 ; with 1952 as base, for 1953 and 1952 ; with 1951 as base, for 1952 and 1951 ; and so on. The quarterly and annual average value indices are revised less frequently and at irregular intervals. Since the war three bases have been used in turn, 1938, 1947, and 1950. At each revision indices on the new base are calculated for one or two previous years, so there is a substantial overlapping period which makes it possible to link the indices together on a continuous basis. In the latest annual Statistical Abstract annual average value and terms of trade indices from 1935 to 1938, and 1947 to 1952, are linked together in this way to give a continuous series with 1950=100.

The methods used in calculating the two sets of indices, and the form of their publication, suggests that it is the official view that for short-period, especially month to month, comparisons of the terms of trade, the ' price ' indices should be used, and that for longer period comparisons the average value indices should be used[1]. We are mainly concerned in

[1]The interpretation of comparisons of price or average value figures over a period of years with substantial changes in the distribution of trade raises the index number problem in an acute form, but this problem is outside the scope of the issues dealt with in this article.

this article with year by year changes in the terms of trade since the end of the war, and the official figures for the merchandise terms of trade given in Table 1 are those based on the ' average value ' indices of imports and exports.

The Terms of Trade for all Foreign Transactions

Since the official figures are ultimately based on the Trade and Navigation Accounts, they cover merchandise trade only and reflect the basis of valuation used in those Accounts. Non-merchandise trade—shipping, travel, insurance, banking, interest and dividends, Government expenditure—is an important element in the United Kingdom's overseas transactions, and it would be valuable if one could calculate the terms of trade allowing for changes in the prices of these items. For it certainly cannot be assumed without further evidence that the movements of the prices of non-merchandise items of imports and exports are on average the same as for the merchandise items. A more accurate calculation of the terms of trade would also value imports f.o.b., for the c.i.f. basis used in the Trade and Navigation Accounts includes many payments for freight, insurance and other services which are made to United Kingdom residents and not to foreigners.

There is in fact very little information about changes in the prices of the non-merchandise items in the balance of payments. There is published price information only for shipping services, and even this is for freight only. It would obviously be extremely difficult to measure the changing price of tourism, insurance, banking, and Government expenditure overseas ; and the meaning to be attached to the changing price of income from dividends, interest and profits is by no means clear.

Estimates of price changes in the non-merchandise items of trade, apart from interest dividend and profit income, and of the c.i.f. price of merchandise imports, are, however, implied in some of the Tables now published in the annual Blue Book on National Income and Expenditure. The " estimates of gross domestic expenditure at constant (1948)

prices[1]" are obtained by adding up figures of revalued consumer expenditure, Government expenditure, capital expenditure and exports and subtracting imports. In this calculation, therefore, we have a series of figures which revalues total imports and total exports—merchandise and non-merchandise—at constant 1948 prices. From other tables in the Blue Book or from the Balance of Payments White Paper we can get figures for the same definition of imports and exports at current prices. It is then a simple matter of arithmetic to derive the price indices for total imports and exports implied in the revalued figures used in the Blue Book.

It is not suggested that this calculation will yield figures of a high degree of reliability. They will merely show the price changes that are implied in the hazardous estimates that must be made by the Central Statistical Office in revaluing the invisible items of imports and exports at 1948 prices. Yet the results of such a calculation may be of interest, (Table II). It will be seen that although the figures are not markedly different from those for merchandise trade only, these differences are not trivial.

The terms of trade on this wider basis rise by only 8.5 per cent[2] between 1948 and 1952 compared with a rise of 11 per cent on the narrower official definition.

Import Prices and the Prices of the Domestic Content of Exports

Both the measures of the terms of trade discussed so far compare the movement of import prices and export prices, as if the commodities exported and imported were unrelated to each other. In fact many items of British exports contain imported raw materials and the prices at which they are sold will therefore be influenced by raw material import prices. For many purposes it is important to be able to distinguish between variations in export prices due to such raw material price changes and those which are due to factors internal to the United Kingdom. It would also be useful in many

[1]See National Income and Expenditure 1946-1952, p.viii.
[2]Using the ratio of import to export prices.

contexts to have a measure of the terms of trade which compared the price of only the United Kingdom element in exports with import prices.

The price of the domestic content of exports cannot be measured directly, nor could such price information be obtained by collecting statistical returns from exporters. It can only be derived by statistical analysis, using estimates of the import content of exports to eliminate from export price changes that part which can be imputed to a change in import prices.

If we know the import content of exports and the price change of such imports, we can calculate by how much export prices should change merely because of changes in the prices of the imported materials used in exports. If we then subtract this from the actual export price change, we are left with the change in the price of the domestic content of exports.

Such a calculation clearly raises formidable statistical problems. There is first the conceptual difficulty of what is meant by the import content of exports; whether this is to be interpreted in the marginal or average sense[1]. I have used the average assumption, that is the assumption that imports of raw materials should be averaged over the whole of production, so making the import content of total production and of exports of any commodity exactly the same.

The input-output table in the Blue Book on National Income and Expenditure gives sufficient information for an estimate of the import content in 1950 of four broad categories of manufactured goods: metals, engineering and vehicles; textiles, leather and clothing; food, drink and tobacco; and other manufacturing. If we then assume that the import content of each of these groups is the same for home production and exports, we can apply these percentages to work out the average import content of exports of manufactures[2] as a whole in 1950.

[1]See W. Z. Billewicz: "The Import Content of British Exports," *Economica*, May 1953.

[2]The calculation has been done only for exports of manufactures, since the import content of other exports is trivial.

This calculation gives a figure of 18 per cent as the import content of exports of manufactures in 1950[1]. Calculations cannot be made on this basis for years other than 1950. But if we assume that, apart from the effect of price changes, the import content of exports for the four main categories does not alter over short periods, we can use the percentages obtained for 1950 to work out the average import content for other years. If we now make the further drastic assumption that the raw material average value index for all imports is also appropriate as a measure of the average price change of raw materials used in exports, we can work out year by year the increase in export prices which is merely due to such price changes. And finally we can calculate by subtraction the residual, i.e. the domestic content change of export prices.

The results of a calculation along these lines are given in Table III. The movement of the index of the average value of the domestic content of exports differs substantially from the total average value of exports, in any period when there is a big change in raw material prices. Thus between 1949 and 1951 when raw material import prices increased by 80 per cent, the total average value of manufactures exported increased by 20 per cent, but the average value of the domestic content of these exports by only 6 per cent. It is also worth noting that in 1953 when the average value of exports had begun to fall, the price of the domestic content of exports was still rising. We may thus easily get a false impression of the impact of changing domestic prices and costs on export prices if we merely look at total average value indices.

We also get a different picture of fluctuations in the terms of trade if we compare the price of the domestic content of exports with import prices. The rise between 1948 and 1951 was by 40 per cent, compared with the official index of only 21 per cent. Between 1951 and 1953 the domestic content price rose more steeply, while import prices were falling and by the latter year the terms of trade on the two bases were little different compared with 1948, one showing an increase of 1 per cent and the other of 5 per cent.

[1]The import content is high for textiles, leather and clothing (31 per cent.) and low for metals, engineering and vehicles (11 per cent.).

This calculation involves the most hazardous assumptions and little importance should be attached to the final result. It does, however, serve to support the argument that total export average value indices conceal some of the most important changes that are taking place.

The same argument can be illustrated with greater statistical reliability from calculations of the movement of the price of the domestic content of exports of cotton goods. In working out the average import content in this case there is no problem of choosing between the marginal and average assumption, since the raw material used—raw cotton—is all imported. And it is probably safe to assume that the raw cotton content of goods sold overseas is, on average, the same as that in supplies to the home market. Using these assumptions, one can work out from the 1948 Census of Production the average raw cotton import content of exported cotton goods. This is then used in the same way as in the case of total trade to calculate that part of the fluctuation in the export average index for cotton goods which is due to price changes of the imported materials, and so to arrive by subtraction at an index of the export price of the domestic content.

The picture revealed by these estimates (Table IV) is much more striking than for manufactures in total. Between 1950 and 1951 the average value of raw cotton imports rose from 126 to 203 (1948=100), but the average value of exports of cotton goods only rose from 110 to 140. This rise was barely sufficient to cover the raw material price rise, and the residual domestic content price in 1951 was little higher than in 1950 and slightly below the level of 1949. After 1951 raw material prices fell steeply but the domestic content price rose steadily, and the total average value index for cotton goods exported was the result of the combination of those two movements in opposite directions.

In these calculations of the price movements of the domestic contents of exports, changes in the average value index of imports of raw materials are related to export average values for the same period of time. This means that the change in the import content of exports is deducted in terms of its

current import replacement cost, not its original cost. A substantial part of the short-period difference between the total average value and the domestic content average value may therefore be due to the fact that in practice manufacturers and exporters base their prices on the original cost of the raw materials used. For if prices are normally based on the original cost of materials, then even if there is no change in the domestic margin, the domestic content calculated on the basis used here would always show a fall for a time when import prices rise steeply and a rise when import prices fall.

Pricing on the basis of original cost of materials is without doubt an important contributory factor explaining the movement of export prices. When import prices rise steeply as in 1951, for a time we sell the raw material content of our exports at much lower prices than they cost us to replace. As long as exports are priced in this way we must expect the terms of trade to move against us in periods of rising raw material prices, and to move in our favour in periods of falling prices. This point can be most clearly illustrated from short period comparisons of the average value of raw cotton imports and of cotton goods exports. The average value of raw cotton imports rose steeply from 184 (1947=100) in the third quarter of 1950 to 355 in the second quarter of 1951, and then fell to 258 in the fourth quarter of that year. But there was practically no increase in the average value of cotton goods exported until the beginning of 1951, then a substantial increase throughout that year; and no fall until the third quarter of 1952, nearly a year after raw cotton prices had begun to fall from their peak.

The Factorial Terms of Trade

Quite a different significance is to be attached to a movement in the commodity terms of trade which results from changes in efficiency in producing goods for export from that which reflects a change in demand. Thus when we argue that we should be able to reduce our export prices through improved efficiency and productivity, we imply that if we are successful the commodity terms of trade will turn against this country.

It is important, therefore, to measure how far movements in the commodity terms of trade are reinforced or offset by changes in efficiency and productivity.

We can do this by measuring changes in the factorial terms of trade. If during any period import prices increase by 20 per cent and export prices by 10 per cent, then the commodity terms of trade have increased over the period by 9 per cent ; it would take an increase of 9 per cent in the volume of exports to pay for the same volume of imports as at the beginning of the period. If productivity in making goods for export over the period improves by 9 per cent, the increased volume of exports could be achieved with the same volume of factors of production. The factorial terms of trade[1] would remain unchanged, the rise in the commodity terms of trade being just offset by the increase in productivity in producing goods for export. We can measure the factorial terms of trade, therefore, by dividing the index of the commodity terms of trade by an index of the productivity of factors producing goods for export.

Such a calculation raises many conceptual and practical problems, none of which can be solved satisfactorily at present. The following explanation of the method used to arrive at the figures in Table V is put forward as illustrating these problems, and, as with most of the other figures in this article, no great reliance should be placed on the final result.

Apart from the difficulty of defining what is meant by a ' unit of factors of production,' there is at present no way of measuring changes in the productivity of factors other than labour. The main basis for any general measurement of changes in labour productivity must be a comparison of the movement of the volume of production and employment. The official index of industrial production is available in detail back to 1946, and there is a comparison between 1935 and 1946 for broad industrial groupings. But there is no continuous series

[1]This is strictly the single factorial terms of trade, the change in the volume of imports that can be bought with a unit of factors of production. The double factorial terms of trade would measure the change in the command of factors of production in the United Kingdom over factors of production overseas.

of employment figures for this period, and the only way of arriving at indices of employment is to link together three different sets of statistics[1].

Since we are interested in changes in productivity of manufacture for export, the grouping of the production and employment series has to be arranged to correspond with that used in the export statistics. This can only be done if eleven[2] broad categories are used, and of these eleven, five—chemicals ; metal manufacture ; engineering ; vehicles ; and textiles—now account for over 80 per cent of total exports. Indices of output per head for 1935 and 1946 to 1953 having been worked out for each of the eleven groups, they were combined to give a total productivity index, using the distribution of export trade in 1948 as weights. Alternative weights were also tried, the 1935 distribution of trade in making the comparison with pre-war, and the 1953 distribution of trade in making comparisons for years since 1948.

This method of calculation implies the assumption that in each broad group the change in output per head for goods exported was the same as for total production. Some of the results of the calculation, especially in the comparison with 1935, give quite startling results. Output per head in vehicles production, for example, comes out as very much lower in the whole post-war period than in 1935[3]. Indeed the results mainly serve to raise doubts and suspicions about the reliability of existing production and employment indices comparing the pre-war and post-war periods. A more detailed and reliable comparison could perhaps be made for 1935 and 1948 from the Census of Production Reports for those two years, but no

[1]The two sets of Ministry of Labour figures, before and after June 1948 for the years 1946-1953, and the Census of Production figures of employment for 1935 and 1949.

[2]Food, drink and tobacco ; chemical and allied trades ; metal manufacture; vehicles (excluding ships) ; engineering electrical goods, instruments and ships ; textiles ; clothing ; manufactures of wood and cork ; paper and printing ; leather goods ; and miscellaneous manufactures.

[3]Even in 1953 18 per cent. or 26 per cent. (according to whether 1935 or 1946 weights are used in the comparison between those two years) below 1935.

estimates of changes in the volume of production calculated from the material in the Census have yet been published.

Less doubt attaches to the significance of the results from 1948 onwards since the basic statistics are much more reliable for that period. The export productivity index shows a rise of 15 per cent between 1948 and 1953. Since the commodity terms of trade increased by 1 per cent over the same period, this gives a figure of 88 per cent for the factorial terms of trade in 1953 compared with 1948 (100). Assuming a continuation of the same average rate of increase in productivity as over the last five years implies that the factorial terms of trade will continue to improve as long as the commodity terms of trade do not on average deteriorate by more than about $2\frac{1}{2}$ per cent per annum.

These figures measure the factorial terms of trade for merchandise trade only. Measures of productivity for invisible items exported would be needed to calculate the factorial terms for trade as a whole, but there is no basis for arriving at such measures.

The Income Terms of Trade

All these figures direct attention to the relative movement of import and export prices and pay no regard to the effects of such price movements on the volume of imports or exports. We know that a favourable movement in the terms of trade measured in this way may be favourable only in a technical sense. If, for example, internal costs and export prices of this country increase while those of our competitors and suppliers remain unchanged, the volume of exports from this country might fall severely and the balance of payments problem be substantially aggravated ; yet the terms of trade would move in our favour.

In interpreting the significance of a movement in the terms of trade one must therefore pay regard to the effect of price movements on the volume of trade. Mr. Dorrance has suggested that a convenient way of doing this statistically is to measure changes in the import purchasing power of exports,

and he calls this measure " the income terms of trade "[1]. The income terms of trade are calculated simply by dividing an index of the value of exports by an index of the price of imports. It thus takes account of three factors : the quantity of goods exported, changes in the average value of exports, and changes in the average value of imports. And the final index measures the changing volume of imports that could be bought with the income obtained from exports. The index reflects not only the relative movement of import and export prices and the effect of such movements on the volume of exports, but all the other factors which influence the export trade of the country. If there are no items in foreign transactions other than merchandise imports and exports, the income terms of trade will, of course, be the same as an index of the volume of actual imports.

The income terms of trade can be calculated either for merchandise trade alone, or where the information is available, for invisible items of trade as well. Both sets of figures are given in Table VI. It will be seen that there is very little difference between the two sets of figures, except in comparison with pre-war[2], but a distinct difference between these movements and those shown by the other measures of the terms of trade, not only in magnitude but frequently in direction. Between 1949 and 1950, for example, when the commodity terms of trade deteriorated by 7 per cent, the increase in the volume of exports was sufficient to improve the income terms of trade by 8 per cent. Thus the income terms of trade provides a useful supplementary index of the changing foreign trade position of a country.

Sectional Import and Export Price Indices

So far discussion has been largely confined to indices which measure the average price of imports and exports as a whole. In the last few years there have been wide differences

[1]See G. S. Dorrance : The Income Terms of Trade, *The Review of Economic Studies* 1948-1949. Vol. XVI, pp. 50-56.

[2]This reflects the relative decline in income from invisible items compared with pre-war.

in price movement within each of these averages, and concentration on the average figures results in significant and interesting changes being ignored.

There has been a striking difference between the movement of the prices of imports of food and raw materials. Raw materials have been responsible for the major increases and fluctuations in import prices since 1947, while food prices have remained relatively stable. Between 1947 and 1951 food import prices increased by 37 per cent, while raw material prices increased by 116 per cent. Since that year raw material prices have fallen steeply although in 1953 they were still 64 per cent higher than in 1947 ; but food import prices have hardly changed since 1951 (Table VII).

There is a remarkably close similarity since 1946 between the movement of food import prices and the movement in prices of exports of manufactured goods. Indeed the whole of the adverse trend and fluctuation in the terms of trade over the period is due to changes in the relation between raw material import prices and export prices of manufactured goods ; none to any change in the relation of the prices of food imported and manufactures exported. This can be seen quite clearly from the two subsidiary terms of trade indices given in Table VII ; the first showing the ratio of the price of food imports to the price of manufactures exported, the second the ratio of the price of raw materials imported to the price of manufactures exported. The food/manufactures terms of trade shows relatively little change since 1946, only varying from 98 to 103. The raw materials/manufactures index rises slowly at first, from 83 in 1946 to 100 in 1949, then sharply to 148 in 1951, and has since fallen back to 107 in 1953. It is undoubtedly the terms on which we exchange raw materials for manufactures which has been the determining factor in fluctuations in the terms of trade since 1946 ; changes in the demand and supply of food have had only a minor influence.

There is also a striking range of variation in the price movement of different categories of manufactures exported (Table VIII). There are two fairly clearly defined classes.

Those where imported raw materials are of importance, such as textiles, paper and cardboard and non-ferrous metals; and those where the raw material content is small or mainly home produced, such as iron and steel manufactures, electrical goods, machinery, chemicals and vehicles. The prices of exports in the first group rise with rising prices of imported materials but only after a considerable time lag, suggesting as was argued earlier, that prices are fixed in terms of original rather than replacement cost of raw materials. In the second group domestic costs appear to be the determining element in prices. The average value of exports of manufactures of chemicals, iron and steel manufactures and machinery were remarkably stable throughout 1949 and 1950. It was not until the second quarter of 1951, nearly twelve months after the beginning of the Korean boom, that export prices of these goods began to rise and then only slowly. But prices went on rising throughout 1952 and most of 1953 when prices of exports in the first category had been falling for some time.

The main explanation of fluctuations in prices of exports must be sought in movements in costs, and there is little evidence that changing demand or competitive conditions in overseas markets exerts much direct influence. Any narrowing or widening of profit margins as overseas trading conditions change has singularly little effect on prices. If this interpretation of the export figures is correct, it suggests that the fluctuations in the United Kingdom's terms of trade since 1946 have been due much more to the difference between the market structure determining prices of raw materials and manufactures than to any serious divergence between the underlying demand and supply conditions for the two sets of commodities.

ELY DEVONS.

Manchester.

TABLE I.
MERCHANDISE TERMS OF TRADE.
1948=100

	Imports (Average Value)	Exports (Average Value)	Terms of Trade $\frac{\text{Imports}}{\text{Exports}}$
1938[1]	35	41	85
1945[1]	69	76	91
1946[2]	74	81	91
1947[2]	90	92	98
1948[2]	100	100	100
1949[2]	102	103	99
1950[2]	115	108	106
1951[2]	150	125	121
1952[3]	149	134	111
1953[3]	132	130	101

[1]Original indices based on 1938=100.
[2]Original indices based on 1947=100.
[3]Original indices based on 1950=100.

TABLE II.
ALL FOREIGN TRANSACTIONS[1]: TERMS OF TRADE.
1948=100

	Imports (Average Value)	Exports (Average Value)	Terms of Trade $\frac{\text{Imports}}{\text{Exports}}$
1946	81	84	96
1947	93	92	101
1948	100	100	100
1949	102	103	99
1950	118	109	109
1951	149	128	117
1952	144	133	109

[1]All items in the current account of the Balance of Payments excluding interest, dividends and profits.

TABLE III.
'DOMESTIC CONTENT' MERCHANDISE TERMS OF TRADE.
1948=100

	Imports[1] (Average Value)	Domestic Content of Exports (Average Value)	Terms of Trade $\frac{\text{Imports}}{\text{Domestic Content of Exports}}$
1945	69	79	87
1946	74	81	91
1947	90	95	95
1948	100	100	100
1949	102	101	101
1950	115	102	113
1951	150	107	140
1952	149	123	121
1953	132	126	105

[1]As in Table I.

TABLE IV.

PRICE OF IMPORTS OF RAW COTTON
and
EXPORTS OF COTTON MANUFACTURES.
1948=100

	Raw Cotton Imports (Average Value)	Cotton Manufactures Exports (Average Value)	Raw Cotton Import Price effect on Cotton Manufactures Exports[4] (Average Value)	Cotton Manufactures Exports : Domestic Content (Average Value)
1946[1]	47	70	81	83
1947[1]	64	85	87	97
1948[1]	100	100	100	100
1949[1]	97	103	99	106
1950[2]	126	111	109	103
1951[2]	203	139	136	105
1952[3]	171	133	125	112
1953[3]	115	115	105	115

[1]Original indices based on 1938=100
[2]Oringinal indices based on 1947=100
[3]Original indices based on 1950=100
[4]Index of the average value of exports of cotton manufactures if there had been no change in price except that due to changes in prices of raw cotton.

TABLE V.

FACTORIAL TERMS OF TRADE.
1948=100

	Merchandise Terms of Trade[1]	Output per head in Production of Exports	Factorial Terms of Trade
1935 (a)[2]	84	100[4]—103[5]	84—82
(b)[3]		103[4]—105[5]	82—80
1946	91	93	98
1947	98	94	104
1948	100	100	100
1949	99	105	94
1950	106	107	99
1951	121	112	108
1952	111	108	103
1953	101	115[5]—116[6]	88—87

[1]As in Table I.
[2]Using 1935 net outputs in weighting 1935 and 1946.
[3]Using 1946 net outputs in weighting 1935 and 1946.
[4]Using 1938 distribution of exports to combine indices of productivity for individual industrial groups.
[5]Using 1948 distribution of exports to combine indices of productivity for individual industrial groups.
[6]Using 1953 distribution of exports to combine indices of productivity for individual industrial groups.

TABLE VI.

INCOME TERMS OF TRADE.
1948=100

	Total Export Income	Price of all Imports (Average Value[1])	Merchandise Exports Income	Price of Merchandise Imports (Average Value[2])	Income Terms of Trade	
					Total Trade	Merchandise Trade
1938	40	38[3]	32	35	105	91
1946	66	81	59	74	81	78
1947	75	93	73	90	81	81
1948	100	100	100	100	100	100
1949	110	102	112	102	108	110
1950	138	118	137	115	117	119
1951	165	149	164	150	111	109
1952	167	144	164	149	116	110
1953	160	—	163	132	—	123

[1]As in Table 2.
[2]As in Table 1.
[3]Assuming the price change of all imports between 1938 and 1946 the same as the price change for merchandise imports.

TABLE VII.

FOOD/MANUFACTURES AND RAW MATERIALS/MANUFACTURES TERMS OF TRADE.
1948=100

	Exports of Manufactures (Average Value)	Food Imports (Average Value)	Raw Materials Imports (Average Value)	Terms of Trade	
				Food Imports / Exports of Manufactures	Raw Materials Imports / Exports of Manufactures
1938	41	36	31	88	76
1945	77	67	65	87	84
1946	81	80	67	99	83
1947	92	93	85	101	92
1948	100	100	100	100	100
1949	103	102	103	99	100
1950	107	110	125	103	117
1951	124	127	183	102	148
1952	134	132	170	99	127
1953	130	127	139	98	107

TABLE VIII.

PRICES (AVERAGE VALUE) OF EXPORTS OF MANUFACTURES BY MAIN GROUPS.

1948=100

	Total Manufactures	Cotton Goods	Woollen Goods	Non-Ferrous Metal Manfcts.	Paper and Cardboard	Iron and Steel	Electrical Goods	Machinery	Vehicles	Chemicals
1949[1]	101	103	105	105	100	104	102	103	104	101
1950 1st Qr.[2]	103	105	109	117	94	105	103	106	106	101
2nd Qr.[2]	104	109	118	124	93	104	105	107	105	101
3rd Qr.[2]	106	111	124	135	98	103	103	108	107	102
4th Qr.[2]	108	116	136	142	105	102	105	109	108	100
1951 1st Qr.[2]	114	125	153	153	119	108	111	111	113	96
2nd Qr.[2]	119	135	179	163	137	115	116	115	119	100
3rd Qr.[2]	125	146	190	166	160	123	122	118	125	107
4th Qr.[2]	128	152	181	165	163	132	125	121	128	109
1952 1st Qr.[2]	131	148	169	177	171	137	129	125	131	119
2nd Qr.[2]	132	142	149	181	170	146	133	130	133	120
3rd Qr.[3]	130	126	139	181	163	149	133	133	135	118
4th Qr.[3]	128	119	136	176	149	150	133	136	134	107
1953 1st Qr.[3]	128	117	139	180	142	151	133	137	131	108
2nd Qr.[3]	126	114	145	170	139	148	129	139	129	104
3rd Qr.[3]	125	111	150	156	133	145	130	142	129	102
4th Qr.[3]	126	114	151	158	133	143	125	142	130	102

[1]Originally based on 1938=100
[2]Originally based on 1947=100
[3]Originally based on 1950=100

The Coordination of Public Passenger Transport in South-East Lancashire

1. Introductory.

This article is primarily a report on a matter of tremendous importance in the daily life of 2,500,000 people ; it was conceived also as a contribution to the general discussion of local government and its problems. This discussion has in recent years suffered badly from the lack of published studies of practical problems of local administration, and this may be one reason why the enunciation of principles has had so little influence on events. The present study deals only with one aspect of a single service in a single conurbation : the strongest impression which it leaves on the authors is that of the complexity of this problem, of its dependence on many other related problems, and of the difficulty of assessing efficiency by any standard better than that of general impressions. It is to be hoped that similar studies will be made for other areas and for other services ; and in time these may fit together so as to justify general conclusions about the organisation of local government. For the present, we are particularly anxious to avoid seeming to imply conclusions of this kind. Nevertheless, the essence of the matter is lost if this problem is detached from its wider background and it may be best to sketch this very briefly at the outset.

South-East Lancashire lies across the river system of the Mersey and Irwell, with its focal points at what was once the head of navigation on the two rivers where they issue from the hills. The hills form a well-marked boundary to East and North, where old industrial settlement followed the streams as far as it could towards their sources ; to the South there is suburban sprawl, ended for the present by a rather indeterminable gap in mid-Cheshire ; to the West there is industrial sprawl, and the gap which used to demarcate South East Lancashire textiles roughly from South Lancashire coal

is disappearing as new industries develop along the line of the Manchester Ship Canal. The census of 1951 showed a population of 2,421,000 in the area of the conurbation as then defined, a rectangle about 30 miles long and 15 miles wide : in the same area there were then 55 local authorities, 7 county boroughs, 2 counties, 15 non-county boroughs, 29 urban districts, and 2 rural districts.[1] This is the list used for census purposes, and it is simplest to stick to it, and not to argue about marginal cases. It is however tempting to stand out for the inclusion of a few authorities in Rossendale (Lancashire) and on the fringes of Derbyshire and the West Riding, as these are within the natural hill frontier, and also within the transport area with which we are dealing. In the end we have decided to exclude them ; this produces one or two difficulties, which are not substantial.

The strongest single authority is Manchester with a population of 703,175 and a rateable value of about £6,500,000 making it four times as big as Salford and Bolton, the largest of the other county boroughs. But all the county boroughs are ancient towns, which do not wholly accept the primacy of Manchester ; and the Counties of Lancashire and Cheshire are powerful bodies whose main interests lie elsewhere. There is therefore no single centre of authority or even of influence ; but economically and socially the conurbation is quite closely integrated, and its daily life depends on the availability of certain services for the conurbation as a whole. One of these is public passenger transport ; this is at present provided by twelve independent bodies (nine local authorities, two public companies, and the London Midland Region of British Railways), and there is no formal machinery for coordination except for the very limited powers exercised by the Area Licensing Authority, who in 1947 replaced the Area Traffic Commissioner appointed under the Act of 1930. This is on the face of it an odd system for the control of what is in its operation a single service. Yet the system works, and it is plain that it works quite well because without it the conurbation

[1]One of these, Limehurst R.D.C., was divided between its neighbours on 1st April, 1954.

could not exist in its present form at all. Doubtless the separate organisations are in various human ways imperfect ; it may be that efficiency would be increased in some ways by greater centralisation. But the arguments for coordination have not hitherto been powerful enough to produce any important changes in organisation. The service has been, and continues to be, provided by independent authorities in collaboration, and this system has been strong enough to resist various movements for change.

This stability has been due to two factors, quite different in character, which work in the same direction :—

(a) The "political" balance of forces, which has prevented administrative change such as has come upon gas, electricity and hospitals which seem to have something in common with transport. Here (sections 3 to 6) one can see that the advantages of change are hard to prove conclusively, and that the central government has taken little interest in coordination ; there has therefore not been a sufficient " head of steam " to overcome the friction generated in the process of negotiation between independent authorities. The internal arrangements of the local authorities concerned have served to increase their " braking power."

(b) The " private " arrangements, which make possible very close collaboration between formally independent enterprises, so that it is not easy to show that better service would be provided by a single controlling authority. These arrangements are not competitive, but may be said to resemble industrial agreements for dividing a market ; the Area Traffic Commissioner (now the Licensing Authority) has been there to act as a neutral arbiter in the last resort, and may gently press for a particular trend of policy. There has thus been created a network of " inter-running " agreements, based on complex systems of accounting and offering a wide choice of alternatives to suit different situations.

2. The Existing Organisation.

Public passenger transport in the conurbation now depends on railways, buses, and trolley buses : the buses and trolley

buses have during the past twenty-five years gradually replaced a great network of tramway services which was in its prime in the 1920's, and finally ended when the last Stockport trams ceased to run in August, 1951.

Since April,1950, local railway services have been provided solely by the London Midland Region of British Railways. Until the end of 1947 they had been divided between the London, Midland and Scottish and the London and North Eastern Railway Companies and from 1948 to 1950 between the corresponding Regions. Published railway statistics do not show local traffic separately, and figures corresponding to those in Table I could only be built up by detailed research. Rail services are a good deal less important than road services, but the system could not operate without them. For instance, Manchester's road services today bring 100,000 people a day into the centre of Manchester during rush hours : before the war railway services brought about 45,000 people a day in rush hours to the six stations in the same central area[1] and it is unlikely that this figure has declined. Three of the suburban lines are electrified, those to Altrincham, Bury and Holcombe Brook, and Guide Bridge and Glossop.

The road passenger services with which we are concerned are provided mainly by nine municipal undertakings (one of them a joint Board) and two private companies. Details are given in Table I.

In addition, local services are operated on the edge of the region by the County Boroughs of St. Helens and Wigan, the Boroughs of Leigh and Rawtenstall, the Urban District of Ramsbottom, the Todmorden Joint Omnibus Committee[2] and two private companies, Ribble Motor Services Ltd., and Hebble Motor Services Ltd.

The conurbation is divided into operating areas belonging to each of " the eleven." Operating boundaries do not coincide exactly with local authority boundaries, but they do not diverge very much, and the position is adequately set out in Table II, which ignores minor discrepancies. It should probably

[1]City of Manchester Plan 1945 : Appendix D.

[2]See below, p. 287.

TABLE I.
TRANSPORT OPERATORS IN THE CONURBATION.

Operator (1)	Vehicle-miles run (2)	Passengers carried (3)	Traffic Revenue (4)	Vehicles in service (5)	Total Employees (6)
Ashton-under-Lyne	1,776,824	25,952,267	236,762	74	325
Bolton	9,056,379	101,608,242	1,026,312	285	1,253
Bury	2,768,810	36,801,938	338,976	97	440
Manchester	45,330,964	449,832,463	5,750,418	1,500	7,156
Oldham	5,973,937	73,066,425†	740,905	240	955
Rochdale	4,337,515	50,931,653†	549,087	155	718
Salford	10,347,580	107,320,003	1,274,289	324	1,707
S.H.M.D. Board	3,140,331	32,647,508	369,136	81	414
Stockport	5,038,381	48,479,285	572,701	168	751
Lancs. Utd. Transport Ltd.				422*	
N.Western Road Car Co.	25,339,665	111,585,681	2,262,062	579*	2,636

*Only part (perhaps a quarter) of these operate mainly within the conurbation.
†Tickets issued
Sources : The figures in columns (2), (3), (4) and (6) are for the year ending 31st March, 1953 and are mainly taken from the Annual Reports of the undertakings. The figures in column (5) are taken from the Passenger Transport Directory and Year Book 1954.

be said that the Table does not mean (for instance) that Stockport buses ply for hire only within the boundaries of Stockport ; in fact they do much work outside Stockport, and other buses run through Stockport. But in principle an operator's bus only plies outside the operator's own area by special arrangement ; the system is one of territorial divisions linked by special arrangements, which are described more fully in Section 7 of this paper.

TABLE II.
OPERATING AREAS.

Local Authority		Population 1951		Transport Undertaking
Ashton-under-Lyne	M.B.	46,490		Ashton
Limehurst	R.D.	8,446		Ashton & Oldham
Bolton	C.B.	167,162		Bolton
Horwich	U.D.	15,552		Bolton
Little Lever	U.D.	4,703	(187,417)	Bolton
Bury	C.B.	58,829		Bury
Radcliffe	M.B.	27,551		Bury
Tottington	U.D.	5,824	(92,204)	Bury

TABLE II—contd.

Local Authority		Population 1951		Transport Undertaking
		OPERATING AREAS.		
Heywood	M.B.	25,193		Bury, Manchester and Rochdale
Manchester	C.B.	703,175		Manchester
Audenshaw	U.D.	12,656		
Denton	U.D.	25,612		
Droylsden	U.D.	26,365		
Failsworth	U.D.	18,033		
Middleton	M.B.	32,602		
Sale	M.B.	43,167		
Stretford	M.B.	61,532	(923,142)	
Altrincham	M.B.	39,787		Manchester & North Western
Oldham	C.B.	121,212		Oldham
Chadderton	U.D.	31,114		
Crompton	U.D.	12,558		
Lees	U.D.	4,160		
Royton	U.D.	14,772	(183,816)	
Rochdale	C.B.	87,734		Rochdale
Littleborough	U.D.	10,982		
Milnrow	U.D.	8,585		
Wardle	U.D.	4,893		
Whitworth	U.D.	7,442	(119,636)	
Salford	C.B.	178,036		Salford
Eccles	M.B.	43,927		
Prestwich	M.B.	34,387		
Swinton and Pendlebury	M.B.	41,294		
Whitefield	U.D.	12,912	(310,556)	
Dukinfield	M.B.	18,445		Stalybridge, Hyde Mossley & Dukinfield Board
Hyde	M.B.	31,498		
Mossley	M.B.	10,415		
Stalybridge	M.B.	22,544	(82,902)	
Stockport	C.B.	141,660		Stockport
Farnworth	M.B.	28,614		Lancashire United Transport Limited
Irlam	U.D.	15,063		
Kearsley	U.D.	10,675		
Westhoughton	U.D.	15,002		
Worsley	U.D.	27,363	(96,717)	
Alderley Edge	U.D.	3,689		North Western Road Car Co., Ltd.
Bowdon	U.D.	3,529		
Bredbury & Romiley	U.D.	17,810		
Cheadle & Gatley	U.D.	31,508		
Disley	R.D.	2,863		
Hale	U.D.	12,155		
Hazel Grove and Bramhall	U.D.	16,659		
Marple	U.D.	13,068		
Urmston	U.D.	39,233		
Wilmslow	U.D.	19,531	(160,045)	

Total : 53 Authorities (2,421,011).

This division into areas is the result of a long history, which can only be summarised here. The South-East Lancashire tramway system was built partly by private enterprise and partly by local authorities which leased their lines to private operating companies such as the Manchester Carriage and Tramways Co., Ltd. Such of the system as was privately owned was later bought by the local authorities, so that all fixed installations were owned by the local authority in whose territory they were situated; but the only local authorities which actually operated trams were the nine local authorities named in Table I. The others leased their permanent way either to operating companies or to authorities; for instance Manchester ran services for Audenshaw, Denton, Droylsden, Failsworth, Middleton, Sale and Stretford; and Salford for Eccles, Prestwich, Swinton & Pendlebury, and Whitefield.

At this stage most boroughs and urban districts, and a few rural districts, were the licensing authorities for omnibuses; this power was derived originally from the hackney carriage provisions of the Town Police Clauses Act of 1847,[1] which had been extended to all boroughs and urban districts by the Public Health Act 1875.[2] The horse omnibus was held to be subject to the same powers of licensing as hackney carriages. When the motor bus was introduced the licensing authorities used their powers to protect their tramway services against competition by privately-operated buses, and then to build up bus services themselves within their old operating areas. In addition, many local authorities had obtained powers by private Act to run bus services outside their own area, sometimes up to a radius of five or even ten miles, and sometimes along the route of any tramway operated by the authority.[3] This process was well advanced when the Road Traffic Act of

[1] 10 & 11 Vict. c. 89.

[2] 38 & 39 Vict. c. 55 s. 171.

[3] *e.g.* Oldham Corporation Act 1925 s. 81 gave the Corporation power, with the consent of the local authority and the Minister of Transport, to run buses on any route upon which the Corporation was empowered to run trams and on any other route within a radius of five miles from the boundary of the borough—with a proviso protecting the Failsworth U.D.C.'s trams.

1930[1] transferred the licensing power to Area Traffic Commissioners; their powers affected local authority services in one or two ways which will be mentioned later, but they left the old operating areas virtually undisturbed.

3. Proposals for an Underground Railway.

It is natural to ask at the outset whether there are any other possible forms of transport. Why no tubes? This question was first asked in 1902, under the stimulus of the success of the deep underground railways developed in London during the 1890's, and a private bill for a tube to be known as the Manchester City Circle Railway was deposited in Parliament that year[2] by two private individuals, Mr. Justyne and Mr. Jackson. This project was abandoned, and the question was not raised officially until 1924, when Manchester was beginning to think seriously of the problems posed by shortage of land for housing. In that year an Underground Railways Special Committee was set up by the City Council; in 1927 it reported favourably after receiving reports from the Tramways Manager and the City Engineer. Action depended on the cooperation of the railway companies, which were not enthusiastic. A conference was eventually arranged in October, 1929 between representatives of the London, Midland and Scottish Railway and of the Wythenshawe, Tramways, and Underground Railways Committees of the Council, to discuss the electrification of suburban lines as well as an underground railway. The principals referred matters to the experts, and their discussions continued until overtaken by the financial crisis of 1931.

This failure was partly due to the general difficulties of coordination between road traffic and rail traffic which are still with us, and which were in an acute phase at the time of the Road Traffic Act of 1930. Difficulties of this sort are

[1] 20 & 21 Geo. 5, c. 43.

[2] The main outline of the story in sections 3, 5 & 6 is contained in the *Minutes* and *Appendices to the Minutes* of Manchester City Council and the *Epitome of Committee Proceedings* available to the public. Other details and the material in section 7 has been obtained from the files of Manchester Corporation Transport Department and from discussion with officials concerned.

described more fully below, and were decisive in stopping the last official discussion of a " tube " in 1936. There are, however, also very serious financial difficulties in the nature of the scheme, which were present to the minds of the negotiators.[1] A system of tubes could not compete on a commercial basis with road passenger transport in a conurbation of 2,500,000 even if all journeys over a mile were made by underground. A tube has enormous capital costs from which bus services are almost free, and it cannot charge fares greatly in excess of bus fares or it will lose traffic. The London tubes handle traffic for a population nearly four times as large, and have great advantages over buses for longer journeys such as are required in London.[2] But even so they were in a precarious financial position in the 1920's, and before the London Passenger Transport Board was formed in 1933 they were financially viable only because they were operated in a combine with the London General Omnibus Co. Ltd.[3]

Extreme congestion of surface traffic may make underground railways viable by forcing the expenditure of public money on subsidies. These may be given directly as assistance towards capital costs or towards current expenditure, or indirectly by controlling surface transport in such a way that the public are forced to pay the extra cost of travelling by tube. Both types of assistance raise difficult issues, and tubes are therefore not often found except in cities like New York, London, or Paris where rivers form obvious barriers, and the capital cost of building more bridges and the approaches to them compares with the cost of building tubes. The Manchester rivers create some bottlenecks, but these could be overcome reasonably cheaply if physical resources were available for new construction. In addition there are various other palliatives for the problem of congestion, such as waiting restrictions, one way streets, and additional parking places, which have

[1]There may have been geological difficulties too ; but these are not mentioned in the official record.

[2]Of course dispersed population and longer journeys in the London area were in part made possible by the underground.

[3]A Common Fund with fixed allocation of revenues was instituted under the London Electric Railway Companies Facilities Act, 1915.

been exhausted in central London. Until these methods have been utilised to the full in Manchester it would be economically unwise and politically impossible to invest capital in a tube.

4. Coordination : The Issues.

For various historical reasons road passenger transport is more " municipal " in South East Lancashire than in any other part of the country, and local authority undertakings have in general two characteristics which affect the problem of coordination and make it particularly urgent to solve it. In virtue of their relation to a local authority they are limited to an operating area defined originally without any reference to transport operation ; and within that area they have a virtual monopoly. The first factor may mean that services to extending suburbs and to neighbouring towns fall to private operators, while the second raises an awkward problem if these private operators run services into the centre of the town and are anxious (for the convenience of the public as well as for profit) to pick up and set down passengers on routes which overlap municipal services. Similar problems arise in a slightly different form between local authorities running services in adjacent areas. This means that in South-East Lancashire coordination is a " bread and butter " problem which affects the working of services from day to day, and arises quite apart from long term considerations of town planning or of economy in overheads.

Experience in Lancashire and elsewhere suggests four possible methods of coordination. First, unification, either by private enterprise operating commercially or by compulsory purchase under public or private Act. Second, the organization of a mixed undertaking in which local authorities and private firms participate. Third, the organisation of a joint board or joint committee of local authorities. Fourth, close informal contact between managers and a network of bilateral arrangements between local authorities and other operators, governing a limited number of specific matters, of which " inter-running " is much the most important.

The first method was that followed in London. A partial monopoly of passenger transport in the conurbation was built up by private enterprise. The " Combine " got into difficulties and was rescued from them by public action which gave it statutory powers of compulsory purchase and at the same time transformed it into a public corporation. In South East Lancashire a number of private transport companies have been bought up by the local authorities, but there is nothing like a " Combine." The Manchester Corporation undertaking is by far the biggest of the operators[1] and it might perhaps serve as the nucleus of a Passenger Transport Board for South-East Lancashire, but its " domination " does not approach that of the " Combine " in London before 1933. Moreover, the other local authorities are loth to part with their transport enterprises. Local authorities in other parts of the country have in effect sold their undertakings to neighbouring private operators, and the L.C.C. trams were taken over by the L.P.T.B. in 1933, but nothing like this has happened in Lancashire.

Attempts have been made to introduce the second and third methods, but so far thay have failed completely ; the fourth is the basis of the present system. A summary of abortive negotiations may make dull reading, but it is necessary to illustrate why this system holds the field.

5. Coordination with the Railways.

The method of mixed undertakings has sometimes been used for collaboration between a local authority and a private bus company, for instance, between Hull and East Yorkshire Motor Services Ltd., between Keighley and the West Yorkshire Road Car Co. Ltd., and between the City of York and the same firm. (Incidentally this firm is now owned by the British Transport Commission, so that the partnership is between two public authorities of different types). An agreement of this sort was reached between Stockport and the North Western Road Car Co. in the summer of 1939,[2] and would have been carried out but for the war ; but the most interesting aspect

[1]See Tables I and II.

[2]Stockport *Council Minutes*, 19th July and 2nd August, 1939.

for South East Lancashire was that of collaboration between the local authorities and the railways. Negotiations began at the end of the 1920's, when the railway companies obtained power by private Act to run omnibus services. The Act was passed early in August, 1928, and the L.M. & S. and the L. & N.E. Railway Companies at once made a concerted approach to local authorities. For instance, they jointly approached Sheffield Corporation, which ran a number of services outside the municipal boundaries, expressed the intention of starting their own bus services in the district, and invited the City's cooperation. What they proposed was that all services should be divided into three categories ; category A, services wholly within the municipal boundary ; category B, local services for the city and suburbs outside the boundaries ; and category C, long distance services. Category A would continue to be the property and sole responsibility of the City, category C would become the property of the railway companies, and category B would be operated by a joint committee of the local authority and the railway companies. Negotiations followed during September and October, and agreement on these lines was approved by the City Council in December, 1928.[1] The arrangements are still in force today.

A similar agreement was made with Halifax, and fairly similar arrangements were made by the L.M. & S.R. with Huddersfield and Todmorden.[2] All seem to have worked satisfactorily. In favourable circumstances the agreement could be to the advantage of both parties: it might give the local authority more say than it would otherwise have in the development of important suburban services, and it might give the railway companies the right to run buses inside the town. The arrangements actually reached were too limited to have much effect on the general problem of the coordination between road and rail transport, but they were at least an approach to it in a cooperative spirit. Unfortunately conditions in South East Lancashire were wholly unfavourable : it was not possible

[1]Additional Minutes presented to Sheffield City Council, 5th December, 1928.

[2]The Joint Committee referred to above, p. 279.

in so complex a situation to deal with each local authority separately, and among so many local authorities there were some who for financial reasons were not interested in an agreement on the Sheffield model. Moreover, the Bill which became the Road Traffic Act, 1930, was in preparation during 1929, and local authorities were inclined to wait and see how it would affect them.

The sequence of events was as follows. Manchester and other authorities were approached in the autumn of 1928 while the negotiations with Sheffield were still in progress, and there were some informal meetings between Mr. Ashton Davies, at that time Passenger Commercial General Superintendent of the L.M.S., on behalf of the two railway companies, and representatives of the Manchester Tramways Committee. Manchester was in the process of appointing a new Tramways Manager and held no formal discussions till the beginning of 1929, but there was a meeting on 21st December, 1928, of the Lancashire and Cheshire Tramways Authorities Council to discuss the attitude to be taken by its members to the railway companies' proposals.[1]

In January, 1929, negotiations began between the new Manchester Tramways General Manager, Mr. Stuart Pilcher, with a deputation from his committee, and Mr. Ashton Davies on behalf of the railway companies, on the lines of the Sheffield agreement . At this stage the main disagreement was about the division of profits on the category B routes (which would be provided by a joint committee). Manchester wished to have the whole profit on all operation within the City boundary, while the railways wanted a half share in the total profits arising from those services. At the same time Mr. Pilcher was in touch with the General Managers of the other eight municipal undertakings in the region ; it was apparently decided that further negotiations should be pursued jointly, and the railway representatives were so informed.

The first formal meeting between representatives of the railway companies and of the nine local authorities involved (or

[1]This Council was the forerunner of what through a good deal of reorganisation has become Area C, the North Western Area, of the Municipal Passenger Transport Association.

more accurately the eight local authorities and one joint board) was held on 15th April, 1929. The local authorities then called for a report on the legal position from their Town Clerks, and on 31st May decided to allow the railways to become equal partners with the other operators in the category B services. But at a meeting on 11th June the railways' representatives stood out for a 33⅓% share instead of equality with the rest, and there was also argument over the payment of goodwill to the local authorities for their share in the services relinquished by them. Meanwhile, a sub-committee of the Lancashire and Cheshire Tramways Authorities Council had been appointed to negotiate with the railways about the Category C services. Clearly, these difficulties could not be resolved by a large conference, and less formal negotiations continued during the summer of 1929 between Mr. Ashton Davies and (for the local authorities) Mr. Warbreck Howell, Town Clerk of Manchester, Mr. Pilcher, and Mr. John Barnard, General Manager of Bolton Tramways, who was also Secretary of the Lancashire and Cheshire Tramways Authorities Council.[1] These discussions led finally to agreement on a draft early in December 1929.

On the same day, the Road Traffic Bill was published, and there was dispute as to whether it would be better to await developments in Parliament. The railway companies naturally wished to proceed, and Mr. Howell was anxious not to antagonise them because of the possibility of opposition by the railways to a Manchester (General Powers) Bill laid before Parliament in the same month, December, 1929. He was anxious too about the larger issue of cooperation with the railways in the development of transport services for Wythenshawe. Mr. Pilcher, however, was for delay, as apparently were his colleagues in the other local authority undertakings, and the draft agreement was put aside till June, 1930. There was then a rather unenthusiastic meeting of the General Managers, at which it was decided with some reluctance to recommend that the draft be put before a conference of local authorities for

[1]The detailed legal work on the local authority side was done largely by Mr. R. H. Adcock, now Sir Robert Adcock, C.B.E., County Clerk of Lancashire, who was then Senior Assistant Solicitor in Manchester Town Hall.

their approval. This conference met in July, and all the authorities except Stockport agreed to the appointment of a sub-committee to continue negotiations on the basis of the draft. But it is unlikely that this was done with any serious desire to reach final agreement. The decision of July was followed in October and November by discussions between the financial experts of the railway companies and of the local authorities on the difficult matter of estimating the working expenses of the Category B routes (the " express " services)—an essential preliminary to the calculation of the goodwill to be paid on that part of them transferred to the railway companies. On 12th December, 1930, the local authorities wrote formally to the railway companies maintaining their position. The railways replied that they intended to oppose before the newly established Traffic Commissioners Manchester's application for licences for its existing cross-town " express " services[1] (the Road Traffic Act had become law on 1st August, 1930).

The railway companies were successful in their opposition, and from 1931 almost all long-distance bus services were severed in the middle of the city. It is doubtful whether this helped the railways, and it was certainly inconvenient for the travelling public. But it is easy to see that so complex a negotiation was most unlikely to succeed except under some form of external pressure.

6. Proposals for a Joint Board of Local Authorities.

Proposals for some form of joint operation by local authorities held out more hope of success and have a longer history. A working model existed on a small scale in the Stalybridge, Hyde, Mossley, and Dukinfield Tramways and Electricity Board which had been operating quite successfully since 1901, and there were persuasive arguments for going further. These were authoritatively stated in a Report prepared jointly by the nine General Managers in 1932[2], which can be summarised as follows :

[1]See below, pp. 304-305.

[2]For the context of this *Report* see below, p. 294.

(1) *Economies in working.* (a) The existence of nine separate municipal undertakings meant a considerable duplication of overheads—there were nine sets of reserve rolling stock, nine sets of staff for the repair of the permanent way and of overhead electrical equipment (this is now unimportant, as all the trams have gone and only two authorities operate trolley buses), and nine separate vehicle repair and maintenance organisations.

(b) If vehicles and spares were standardised they might be purchased more cheaply and a lower stock of spares would be adequate.

(c) There would be economies in the purchase of other materials.

(d) The arrangements for inter-running require (as will be described later) a great deal of clerical and accounting work, which would be eliminated.

(e) A single claims department for the whole Board could conduct that side of the business more cheaply than various authorities acting through different insurance companies.

(2) *Convenience of the public.* (a) The through services broken at the instance of the railways in 1931 could be restored.

(b) Fares would be standardised, especially concession fares, and rates for parcels and dogs.

(c) More through routes fares would on the whole mean cheaper fares.

(3) *Employees.* Wages and conditions of service would be standardised throughout the area.

(4) *Decentralisation.* Local convenience and efficiency would be secured by decentralisation in some departments such as the cash and ticket departments.

Some of these arguments are now out of date, and others are questionable. 2(a) and (c) depend on the assumption that through running could be restored by a Joint Board, and not otherwise, which is probably untrue. 2(b) is partly out of date, 3 is wholly out of date, as agreements for wages and terms of service are now nationally negotiated through the National

Joint Industrial Council for all municipal transport, which was set up in 1937 ; 4 is not an argument, but a mitigation of the expected disadvantages of centralisation. This therefore leaves only the argument from economy, which is strongly and fairly stated by the Managers. To this must be added the " planner's " argument, which could scarcely be used by the Managers, that if road passenger transport is centrally controlled it is much easier to take positive action in the interests of the conurbation as a whole, in such matters as developing new routes, subsidising uneconomic routes, charging differential fares, and so on.

In debate the answer to the argument from economy is that all claims to economy by centralisation require careful scrutiny because they state only one side of the account. The economies of scale may be fairly calculated and stated ; the extra expenditure due to scale is hard to calculate and varies for different organisers and different types of enterprise—but no one doubts that it exists. The practical answer to the planning argument is that it is unpopular with the smaller authorities who do not welcome a further concentration of power ; the theoretical answer is merely to maintain the merits of the old invisible hand against those of a human governor, who may be fallible and will certainly be under heavy pressure from interested parties. The arguments for and against a Joint Board seem in fact to be balanced fairly evenly ; our present purpose is not to settle the matter, which could only be done by very detailed study of present costs and possible future costs, but to illustrate what happens when an argument of this sort has to be settled between independent local authorities.

The first initiative came from Salford. Salford tramways seem to have suffered particularly during the period of " pirate " buses which preceded the Road Traffic Act, 1930, and in the 1928/29 Session of Parliament, Salford promoted a private Bill in which the Corporation sought power to restrict the running of buses in competition with the municipal tramways. Salford provided tramway services for Eccles, Prestwich, Swinton and Pendlebury, and Whitefield (who

owned their own permanent way but leased it to Salford for operation), and in February 1929 the Salford authorities called a conference of these authorities to discuss the establishment of a joint board. Meantime the Salford Bill was in difficulties before a Private Bill Committee of the Commons, which took the line that the proper course was the creation of a joint board for the whole of South East Lancashire, and recommended rejection of the Salford Bill.[1] Salford reacted by depositing a Bill to set up a South East Lancashire Tramways and Omnibus Board. This was done in haste, and the formalities of Standing Orders were not complied with. Other local authorities opposed the Bill, owing primarily to lack of prior consultation, and for this reason the House of Lords Standing Orders Committee refused a dispensation. The Bill therefore went no further.

In the next stage the initiative came from Manchester, which proposed a joint board for Manchester and Salford only. The first step was taken by the Lord Mayor of Manchester in January, 1930, and Mr. Pilcher was asked to prepare a report. The City Treasurer (Mr. John Bray) and the Town Clerk added their comments, but there was then a pause because of the heavy programme of Parliamentary business being handled at that time by the Town Clerk's department. In September the Lord Mayor raised the matter again, and the idea was taken up with some energy by Manchester, but ran the usual cycle of frustration. The timetable is typical:—

7th October 1930	Informal conversations between Manchester officials.
14th October 1930	Informal meeting between Manchester and Salford Town Clerks.
13th February 1931	Report prepared for submission to Manchester Transport Committee requesting instructions.
24th February 1931	Sub-committee appointed by Transport Committee so as to be ready for conference with Salford.

[1]Report, 26th March, 1929. (See *Manchester Guardian*, 27th March, 1929, p. 6.).

11th March 1931	Sub-committee met and requested Town Clerk to arrange conference with Salford.
24th April 1931	Conference between sub-committees agreed to recommend continuation of negotiations.
28th April 1931	Recommendation rejected by Salford Transport Committee.
19th May 1931	Manchester Transport Committee abandoned scheme.[1]

A third cycle began almost at once, this time on the initiative of Oldham. In July 1931 the Oldham Tramways Committee was persuaded by its Vice Chairman, Alderman Tweedale, to approach the Town Clerk of Manchester and the Secretary of the Lancashire and Cheshire Tramways Authorities Council about the possibility of a conference to discuss a joint municipal passenger transport board for the area. (The Secretary of the L. & C.T.A.C. was General Manager of the Bolton undertaking, its Chairman was also Chairman of the Bury Tramways Committee). After the usual informal preliminaries, a first conference was held in October 1931 at Manchester Transport Offices, attended by the Chairmen and Vice-Chairmen of the Transport Committees and the General Managers of the transport undertakings of eleven local authorities—the nine authorities shown in Table I, together with Wigan and Leigh. This conference called for a report by the General Managers on the advisability of the scheme, which was submitted to a second conference held on 29th February 1932. This report has been briefly summarised above and was strongly favourable. It will be remembered that this was the time of the London Passenger Transport Bill, which was presented to Parliament by Mr. Herbert Morrison in March 1931, and became law without substantial change under a Conservative government in April 1933. The idea of amalgamation and rationalisation was almost above party controversy.

[1] *Epitome*, 1930-31, pp. 474-5.

The next stage was for the conference to call for reports from the Town Clerks and Treasurers, which took longer to prepare than that from the General Managers. Like the latter, they illustrate the difficulties which still face a scheme of this kind.

The Clerks were concerned with area and control. Areas were relatively straightforward: If Wigan and Leigh were excluded, the areas over which the remaining nine authorities enjoyed protection for their services formed a fairly compact block of territory—an obvious working area for the Board. Agreement was also reached on a scheme of control by an indirectly elected Board, which would be a body corporate, and which would consist, as to two-thirds, of representatives of the operating authorities, and as to one-third, of local authorities who owned tramlines but did not operate services themselves, and of the other local authorities in the area. As regards allocation of seats within each of these sections, the Clerks suggested tentatively that this could best be done on the basis of population. They were probably right in thinking this, but the problem would certainly have caused further difficulties.

The Treasurers were concerned mainly with the basis on which existing undertakings would be transferred to the new Board. There were a number of alternatives. The Board might take over assets at a valuation, and this might be either on the basis of revenue earning capacity, or of the market value of the physical assets. Either method would leave a good deal of room for controversy. It would however be more straightforward to take over assets on the basis that the Board would meet all liabilities for debt charges relating to them. (This is virtually what the Government did in regard to the electricity and gas undertakings of local authorities in 1947 and 1948, and it was extremely unpopular because different undertakings had been financed in different ways, so that the incidence was very uneven as between different local authorities.) It might be possible to work out a compromise by using different methods according to the type of asset involved. Or finally it might be possible to compensate on the basis of

capital expenditure originally incurred for proper purposes, less depreciation on a scale or scales to be agreed. This last might give the most uniform treatment as regards capital assets ; but would leave much room for controversy before final settlement. In addition the Treasurers had to face the questions of the possible transfer of existing cash reserves to the new Board, and of the borrowing and other financial powers of the Board.

It is not surprising that from this point enthusiasm began to recede. A third conference met on 12th July, 1933, and referred the three reports to the constituent authorities for approval in principle and for the appointment of representatives to prepare a scheme. It also decided to issue the reports to the Press.[1]

In Manchester the matter was deemed to be of such importance that it was taken out of the hands of the Transport Committee and referred to the General and Parliamentary Committee. The latter's report[2] was also favourable, and the City Council endorsed the scheme in general terms on 7th March, 1934. A fourth conference met on 15th May, 1934, and it was then found that of the original eleven authorities Manchester, Oldham, and Wigan were favourable, Bury, Leigh, and Stockport were hostile, and Ashton-under-Lyne, Bolton, Rochdale, Salford, and the S.H.M.D. Joint Board reserved judgment. The eight survivors appointed a special technical committee, and this in turn appointed a sub-committee to formulate detailed proposals which would be practical and financially equitable, and they empowered their committee to obtain the advice of Mr. Arthur Collins, formerly City Treasurer of Birmingham, who was at that time much in demand as an arbitrator and adviser in matters of municipal finance.

The financial plan produced was certainly ingenious, and looked like a promising basis for agreement. It was submitted to a fifth conference of the eight authorities on 5th March, 1935. (In fact, there were now only seven, as it was decided

[1] See *Manchester Guardian*, 26th September, 1933, p. 4.

[2] *Council Minutes*, 1933-34, Vol. II, pp. 357-65.

when drawing up the plan that the Wigan undertaking could not conveniently be included in the first instance.) The new plan was referred from the conference to the authorities, and three more of them, Ashton-under-Lyne, Bolton and the S.H.M.D. Joint Board decided to withdraw, rather on grounds of finance than of principle.[1]

This left four—Manchester, Oldham, Rochdale and Salford. Rochdale's General Manager died in January, 1936, and Rochdale then dropped out of the scheme. Meantime, a scheme had been produced for the four authorities to proceed alone, and this was discussed at conferences in October, 1935 and January, 1936. After the second conference the three survivors (still quite a powerful body) decided to seek comfort and (if possible) support in Whitehall. They got neither. A deputation was finally received by Sir Cyril Hurcomb, then Permanent Secretary at the Ministry of Transport, on 8th May, 1936. He made it perfectly clear that the Minister had no views whatever on the matter, and he required two months more to confirm in writing that the Minister could not commit himself on the scheme until the details were made known in a private bill. This letter was considered by the three authorities at a final conference on 17th July, 1936, and they decided to drop the scheme.

There was however sufficient general concern to produce one more effort. The underground railways idea was revived in Manchester City Council in February, 1936 " in view of the traffic congestion and the number of accidents in the streets of the city," and a special committee was appointed to confer with other interested parties and to report.[2] On 13th July, 1936, this committee met representatives of the railway companies and of the Manchester and District Joint Town Planning Advisory Committee, which had already been considering with the railway companies' representatives the further electrification of lines in South East Lancashire. This last

[1] According to an unpublished lecture by R. H. Adcock, then Deputy Town Clerk of Manchester, delivered to the Manchester Liverpool and District section of the Institute of Transport on 22nd April, 1938; text in Manchester Transport Department files.

[2] *Council Minutes*, 1935-36, Vol. II, pp. 1623-4.

named body had limited but real influence in matters of regional planning, and it is important to notice that it now enters the discussion for the first time. It had been created on a voluntary basis in 1921, and was at first directly representative of local authorities in the whole conurbation. The Town Planning Act of 1925[1] was the basis of a number of statutory committees for separate parts of the conurbation ; for instance, the Manchester and District Regional Planning Committee covered Manchester and the inner area. In 1928 the larger body was reorganised as a conference of these statutory committees, and local authorities were no longer represented directly ; in 1944 it was renamed the South Lancashire and North Cheshire Advisory Planning Committee. The City Surveyor of Manchester acted as principal technical adviser to this body and to the Manchester and District Committee as well as to his own Council, and there is a considerable measure of unity in the outline Plans produced by these three bodies immediately after the War[2]. The whole structure of cooperation was abolished by the Town and Country Planning Act of 1947 and has not been replaced by any other formal organisation.

The railway representatives made it clear at once that they were not prepared to consider any further scheme of electrification without some protection for their capital in the form of a coordinated scheme for all local passenger transport in the region. When the three survivors read the burial service over the Joint Board scheme they welcomed this new approach by the railway companies, and on 2nd September, the Manchester City Council authorised its General and Parliamentary Committee to call a conference of representatives of the local authorities, the railway companies and the private bus companies in the region. The conference met on 19th January,1937,and appointed a committee to investigate. This committee met on 15th March and decided not to proceed

[1] 15 & 16 Geo. 5c16.

[2] *City of Manchester Plan*, 1945; Manchester & District Regional Planning Committee, *Regional Planning Proposals*, 1945; South Lancashire & North Cheshire Advisory Planning Committee, *An Advisory Plan*, 1947.

any further.[1] It is hard to see what else could have been expected.

This seems to have been the only occasion before the War when transport was linked with planning. This link has been slightly stronger since 1944, but the results have been equally disappointing. The initiative came this time from the railways. Mr. Ashton Davies, by that time Vice-President of the L.M. & S.R., wrote in February, 1944, to Mr. Adcock, then Town Clerk of Manchester, requesting an exchange of views on " post-war development in the Manchester area." The railways were considering a scheme for linking electrified suburban lines by underground connections in the central area, and wished to know whether there was any chance of obtaining protection for the capital investment involved. The scheme went before a joint meeting of the Post-War Reconstruction, Town Planning and Buildings, and Transport committees, which obtained reports from their officials and recommended that the underground railways proposals be rejected but that the question of coordination be taken further. This was endorsed by the Council on 25th October, 1944, and a deputation was sent to discuss matters with the Ministry of War Transport.

Sir Cyril Hurcomb (then Director General at the Ministry) saw them on 14th December and was relatively forthcoming. He pointed out that the question was one for the region, not for Manchester only ; declined to commit the Ministry to any view about a proposal on the lines of the old Joint Board scheme ; but suggested that the local authorities should form a joint advisory committee with powers to plan, but not to operate. This was taken up by Manchester, and the Town Clerk called a conference of the local authorities concerned. After the usual rounds of approval in principle and preparation of a draft for further approval, the scheme was adopted by the various authorities. The new body met for the first time on 11th February, 1946, under the title of the South East Lancashire and East Cheshire Municipal Passenger Transport Joint Advisory Committee. It represented the nine local

[1] *Council Minutes*, 1936/37, Vol. II, pp. 216-8.

authorities only, not the railways nor the private bus companies. It had no executive authority, but had terms of reference which gave it an almost unlimited right of discussion regarding matters of public passenger transport.

The activities of this body were of some importance, but unfortunately it foundered as soon as it was faced with a question of policy. The Committee began[1] by confirming Manchester's rejection of the railways' plan for the development of an underground. Thereafter, between 1946 and 1950 it, or its sub-committees, considered the following matters, and made representations about some of them to the Ministry ; wartime restrictions on the number of bus stopping places, the standardisation of specifications for public service vehicles, the standardisation of special fares and concession fares, and responsibility for the provision of bus stations and for expenditure on them. This was all serious business, and much of it led to action in these relatively minor matters. The Committee served a useful purpose as a forum for the discussion of matters of purely local concern, and also for the discussion of other matters which the regional committee of Area C of the Municipal Passenger Transport Association was too unwieldy to handle (its area includes Lancashire, Cheshire, North Wales and N. Ireland.)

The critical issue was that of the Transport Act of 1947. Clause 67 of the Bill, which (slightly amended) became Section 63 of the Act, empowered the British Transport Commission to " prepare and submit to the Minister a scheme as to the passenger road transport services serving such area as may be specified in the scheme, being a scheme devised for the purpose of promoting or facilitating the promotion of the coordination of the passenger transport services serving the area, whether by road or by rail, and the provision of adequate suitable and efficient passenger road transport services to meet the needs of the area." While the Bill was before Parliament, the Advisory Committee obtained an assurance from the Ministry that there was nothing in the Bill to prevent a body other than the Transport Commission from framing such a

[1] *Minutes* made available by the Town Clerk's Department, Manchester.

scheme. Thereupon it determined to go ahead with the preparation of a scheme and began to collect information about the services in its area. During 1948 the Road Transport Executive was still finding its feet, but began by making a provisional division of the country into areas suitable for such schemes. In December, 1948, it began to consult the local authorities concerned in its proposed Northern Area, which included Northumberland, Durham, and most of the North Riding. A scheme was prepared in draft Precis and circulated for observations in August, 1949. (The Road Transport Executive had been transformed into the Road Haulage Executive in June, 1949, but its work on "area schemes" was carried on by the Road Passenger Executive established in July, 1949). The scheme was sent by the Transport Commission to the Minister early in 1950, and he returned it in June with his observations. It was re-submitted to him in June, 1951. Meanwhile, preparations were being made for drafting a scheme for the East Anglian area, and a South Western area had been decided upon before the General Election of February, 1951. This changed the outlook, and action was finally abandoned when the Conservative Government's White Paper on Transport Policy was published in May, 1952.

The effect of the Northern Area scheme would have been to transfer all the assets of municipal and non-municipal passenger transport undertakings operating local services in the area (in point of fact seven local authorities, one joint board and over a hundred other operators) to a newly constituted Board acting as agents for the British Transport Commission. The possibility of such a precedent caused tremors in South East Lancashire, and during 1949 the Advisory Committee sought advice as to what to do about the preparation of a scheme. In January, 1949, a sub-committee received reports from the Honorary Secretary (the Town Clerk of Manchester, Mr. Philip Dingle) and the Honorary Technical Adviser (the Manchester General Manager, Mr. A. F. Neal), and in February the main Committee decided to send a deputation to the Ministry. After some hesitation, this was received by Mr. L. J. Callaghan, the Parliamentary Secretary, on 31st

May. He committed himself to nothing, and referred the deputation to the Road Transport Executive. The deputation saw the Road Passenger Executive on 27th September, 1949 : the latter disclaimed responsibility and referred the deputation to the British Transport Commission. The Advisory Committee stopped at that point, in spite of being pressed by Manchester to take further action. On 29th November the Manchester Transport Committee considered a report on the draft Northern Area scheme, reaffirmed the views on local control through elected representatives of local passenger transport expressed by the Association of Municipal Corporations[1] and endorsed by the Municipal Passenger Transport Association, and asked the Advisory Committee to prepare a scheme for its area as soon as possible, in order to forestall the Road Passsenger Executive. The City Council sent this resolution forward on 4th January, 1950. The Advisory Committee met on 30th January and deferred consideration of the Manchester resolution. It has not met since : the Committee is not officially dead, but it can hardly be said to be alive.

This section has been concerned with the failure of attempts at formal coordination. There has been much greater success in cooperation over technical matters. During the war there was formed, at the suggestion of the Regional Transport Commissioner, (the Area Traffic Commissioner with functions enlarged under Defence Regulations) a Lancashire and Cheshire Emergency Committee, primarily to organise mutual aid between private companies and municipalities in crises caused by enemy action ; and in 1942 it set up a panel on technical questions relating to gas producer vehicles. The success of the panel led to a proposal in 1944 (when the Emergency Committee was disbanded) that there should be a permanent technical panel to consider maintenance problems, and in December, 1944, this became the Public Service Vehicle Maintenance Committee for the North West Region. It covers the whole of the North West, and at present consists of

[1]Minutes in Supplement to *Municipal Review*, December, 1949, Report of General Purposes Committee.

members from Crosville Motor Services Ltd., (now owned by the Transport Commission), Lancashire United Transport Ltd., and Ribble Motor Services Ltd., to represent the large private operators; from Liverpool and Manchester together with four other local authorities in rotation; and from the Passenger Vehicle Operators Association. Meetings are also attended by the maintenance and certifying officers on the staff of the Licensing Authority for Public Service Vehicles (the title of the Area Traffic Commissioner was changed by the Transport Act 1947). The Committee meets five or six times a year. It deals solely with technical matters such as garage heating and ventilation, bus washing plant, bus painting, and the effect of oil dropping on road surfaces, and proceeds by collecting information from the forty or so members and discussing the problems which emerge. A good deal of this might be done in any case through informal channels, but it is probably done better by a public body, which serves to emphasise the importance of the work done. The model has now been copied in some of the other Regions.

7. Inter-running.

It has been necessary to set out this history of failures in some detail, so as to illustrate concretely the difficulties in the way of change, which are often disregarded. The pattern of cooperation may be explained more briefly; it is extremely complex, but of a familiar type.

Business is done partly by informal contacts—there is for instance a Municipal Passenger Transport Association Area C Managers Section at which the General Managers of the undertakings meet. But there are also formal bilateral agreements, arrangements, and understandings on many different matters. Agreements for the lease of tramways from authorities not operating their own services were formerly important: these now survive only in a few areas where the company operating trolley-buses leases fixed installations from the local authority. There are agreements of much the same type for the provision of bus shelters and the sharing of their cost, for the use of the streets of one authority by another

in the provision of the latter's services, and for the mutual use of bus stations. But the operation of services over the conurbation as a whole depends primarily on a network of inter-running arrangements, which are in effect agreements to share the market and divide the proceeds. The particular forms of agreement are determined by local circumstances and history, and are extremely complex: but they raise no issues not familiar in economic discussion about cartels.

Manchester's first inter-running agreements were made in the " tramway age". They began in 1907 with an agreement between Manchester and Oldham for a service from Piccadilly to Waterhead—which still exists, as a bus service from Stevenson Square. An agreement with Ashton-under-Lyne followed later in 1907, and was followed after the war by others with Stockport and the S.H.M.D. Joint Board in 1922, Rochdale in 1925 and Salford in 1926. At the same time agreements were made between neighbouring authorities, on the outer fringe of the conurbation, for instance between Ashton, the S.H.M.D. Board, and Stockport. Taken together these are as important in the system as the Manchester agreements, but it is convenient in a brief description to deal only with Manchester, which has the largest single interest.

The trams have now been abandoned, and in most cases the old tramway agreement has been replaced by a bus or trolley bus agreement. The Manchester–Rochdale service was changed to buses in 1932, the Manchester–Ashton service to trolley buses in 1938 and the Manchester–Stockport service to buses in 1948. Salford abandoned its trams in 1937, and some of its tramway agreements have been succeeded by bus agreements. There has however been difficulty about replacing by bus services some of the old cross-town tram services, which involved more than one operator, and some of these are still being negotiated.

The second phase of development was that of rapid cross-town bus services making " limited stops " only and connecting districts well outside Manchester with each other. The first of these was the Cheadle-Heywood " express " service, opened in 1927 and later transformed into the Gatley–Norden

service. This was followed by others such as Stockport–Bury, Flixton–Bacup, Altrincham–Littleborough, Chorlton–Glossop, Worsley–Stockport, Bolton–Hyde, Gatley–Uppermill, and Northenden–Oldham. By 1930 there were some 27 of these services operated by the eleven operators in Table I: they interconnected in Manchester and seem to have been popular with the travelling public.

Most of these services were severed by the Traffic Commissioners in 1931.[1] Objection to them was lodged by the railway companies on the ground that long distance "express" services were properly their concern. Further objection came from the police, who were anxious about the increased congestion in the central area caused by through bus services, and this consideration seems to have been decisive in persuading the Commissioners to insist that almost all these services should be broken in the centre of Manchester.[2] This meant that in some cases the central portion of the service was dropped[3] so that passengers could make a connection only on foot or by a local bus. In other cases parts of the severed services were withdrawn altogether.

There has been a third stage, which partly overlapped the first two, that of the gradual development of local bus and trolley bus services with inter-running arrangements, some in substitution for, and others in addition to, the old tramway agreements. Table III gives the position reached in 1947, on the basis of figures collected for the South East Lancashire Committee in 1947.

There are no later official figures, but it is possible to estimate the position for the Manchester undertaking in 1953, and this may serve to illustrate the working of the system. The Manchester figures for 1953 show an increase over those for 1947; the statistics should be used with caution, in view of difficulties about definition, but there is no doubt that there is a trend towards further development of inter-running as public needs require new services.

[1] See also p. 290 above.

[2] Transcript of the proceedings made available by Manchester Corporation Transport Department.

[3] e.g. on the Bolton-Hyde service, the portion between Greengate, (Salford) and Piccadilly (Manchester) was cut out.

TABLE III.
ROAD PASSENGER TRANSPORT SERVICES
(TRAM, BUS AND TROLLEY BUS) JULY 1947.

Operator	Services not operated jointly	Joint Services			Total of all services
		Operated with constituent authorities of Advisory Comm. only	Operated with other local authorities and undertakings	Total	
(1)	(2)	(3)	(4)	(5)	(6)
Ashton-under-Lyne	9	11	2	13	22
Bolton	32	1	14	15	47
Bury	20	7	7	14	34
Manchester	65	34	30	64	129
Oldham	14	8	4	12	26
Rochdale	15	6	4	10	25
Salford	40	14	10	24	64
S.H.M.D.	6	14	4	18	24
Stockport	15	12	8	20	35
All services	216	50	70	120	336

Note. Columns, 3, 4, 5 and 6 do not add up to the totals given in the last line because joint services are enumerated under each of the operating authorities, and there is therefore considerable duplication in columns 3 and 4.

Manchester was concerned in 150 services altogether; 74 were operated by Manchester alone, and 76 were joint services. The other operators concerned in these joint services were as follows:

Ashton-under-Lyne	2
Oldham	4
Rochdale	3
Salford	13
S.H.M.D.	3
Stockport	8
North-Western	26
Ashton-under-Lyne & S.H.M.D.	1
Bury and Salford	1
Oldham and Rochdale	2
Oldham and North-Western	4
S.H.M.D. and North-Western	1
Stockport and North-Western	5
Lancs. Utd. Transport & North-Western	2
Ashton-under-Lyne, S.H.M.D., & North-Western	1
Total	76

The services fall into three broad groups :—

(1) Joint services in which all those who participate financially also participate in operating the service (41 services).

(2) Services in which all the financial participants have operating rights, but for reasons of convenience they arrange that not all of them actually operate on the service (20 services).

(3) Services in which only one participant has operating rights, but nevertheless agrees to share the revenue because he operates through the recognised territory of the other participant or participants. (15 services).

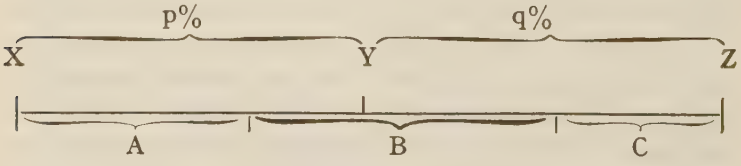
The general principle upon which agreements are reached in all three groups is that each participant takes the ticket receipts earned in his own territory and operates the mileage operated in his own territory. This involves elaborate accounting in two separate units of account, receipts and mileage. The object of recording mileage as well as receipts is to arrange that (taking one period with another and one service with another) operator A completes as many miles with his vehicles in operator B's territory, as B completes with his vehicles in A's territory. This is the simplest way of agreeing on an equitable distribution of the cost of providing the services, though even this leaves room for argument—for instance, is it equitable that trolley-bus mileage should be set off against motor bus mileage ? The calculation is usually made on the basis of miles actually run by each operator, but the receipts from some services are divided on a route mileage basis and in these cases the basis is one of " notional " mileage run and is calculated by allocating the total miles operated on the route in proportion to the length of it in each operator's territory. It is usual to strike a balance of mileage every six months, carry forward debit and credit balances, and adjust them by re-allocating vehicles during the next period. There are exceptions, however ; one of the other municipal operators has a cash settlement with Manchester at the end of the year, instead of a carry forward of mileage, and there are special

arrangements between Manchester and Salford about Trafford Park services, and between Manchester and the North-Western Road Car Company.

There are four main ways of allocating receipts : ticket basis, route mileage, actual mileage, and percentage basis. Each of these gives rise to refinements designed to meet special difficulties ; and further subtlety is possible if different methods are combined for one route. Manchester's joint services are divided between the four methods as follows :—

Ticket basis in :		17
Route mileage basis :	simple	9
do.	with refinements	6
Actual mileage basis :	simple	13
do.	weighted	nil
Percentage basis :	simple	27
do.	with refinements	2
Special cases :		2
	Total	76

The negotiation of these agreements requires experience and ingenuity, and the refinements of the system are interesting in themselves. It would be out of place to attempt to explain these here, but laymen may get some idea of what happens from two cases which illustrate the peculiarities of the system in an extreme form. In one of these three operators, A, B and C share the route from X to Z. For purely historical reasons this route is split at Y, and the receipts are divided between operators A and C on a percentage basis.



A and C then each pay a proportion of their receipts to B on a route mileage basis. The other case also embodies past history.

Two services from Stevenson Square run for a good distance over the same route—No. 2 to New Hey and No. 24/90 to Rochdale. No. 2 is the older service and is operated by Manchester, Oldham and the North-Western Road Car Co. Ltd. No. 24/90 is a service originally begun by Yelloway Motor Services Ltd., which was required to " protect " the older service by paying some of its receipts into the No. 2 service pool. The local services of the Yelloway company were bought by Manchester, Oldham and Rochdale jointly in 1944, and they now operate this particular service. But No. 24/90 service still pays on the old basis into the No. 2 service pool.

These are extreme examples, but the system as a whole has this characteristic individuality ; each agreement is a special case, negotiated between independent operators on the basis of past history and financial experience. The result is confusing to the layman and it retains traditional anomalies of various kinds : but it is negotiated between men with a shrewd eye to the financial interests of their authorities, and it is in a continuous state of development to meet changing needs. It has great advantages as a means of flexible cooperation between operators independently responsible for the economic success of their operations, and it has two recognisable disadvantages. One is that some of the types of agreement (but not all) require book-keeping which would probably not be necessary for internal control within a single combine ; the other is that new services involving more than one operator can be introduced only by negotiation and not by unilateral decision, and this may (but need not) mean delay in meeting public needs. One may sum this up by saying that this cat's-cradle of individual agreements has secured many of the advantages of a combine : it has perhaps not secured them all but it does so well that it is not easy to see except by detailed study of hypothetical cases whether the advantages of centralisation would outweigh the drawbacks.

8. Conclusions.

It may be useful to draw together, by way of conclusion, the main themes of this story, with a renewed warning that this does not imply general conclusions about local government and transport.

The most important cycle of argument about coordination was that which began in 1929 and broke down finally in 1937. It was clear then that the arguments for the immediate economic advantages of coordination by a special authority were not very strong, and could only prevail in negotiation between local authorities if supported in other ways. The strongest supporting argument is that based on the need to unify transport so as to be able to plan the use of transport more effectively. There is little trace, either in published documents or in office practice, of consultation between town planners and organisers of transport in regard to proposed movements of population. But on the whole transport services have followed the people and have met their needs : and this has been possible because the motor bus is an extraordinarily flexible instrument. It is therefore not possible to point to any disastrous consequences of the failure to plan transport in advance. There have been some bad mistakes, such as failure to give priority to the Mersey crossings and the main roads South of the Mersey in the days when physical resources were available ; but these failures were part of the general situation, and it is hard to make them an argument for a new Transport Board now. In any case, arguments for a Joint Board are arguments for centralisation of power within the area, and are therefore repugnant to most of the local authorities. Manchester is big enough to feel that it would retain effective control even within a joint enterprise ; it is therefore more ready than other authorities to give a lead. But this in itself makes other authorities associate coordination with the imperialism of Manchester, and to see in it a threat of eventual annexation.

It should not therefore be assumed that the extreme slowness of the negotiations is inherent in the system of local government. The system is indeed cumbrous, with its division between negotiation by officials and negotiation by laymen, and its multiple hierarchy of committees. But what this story shows is not that it is impossible for this organisation to act quickly, but that it gives great opportunities of evasion to any authority which is inclined to

" drag its feet." It is as easy to kill projects by delay as by opposition, and it is reckoned to be more polite ; where Whitehall appears in this story it uses the same tactics as the more reluctant local authorities.

The present system of inter-running undoubtedly fits the situation well. It gives Manchester a position of primacy but not of dictatorship, so that the other services are geared to that of Manchester but are not inferior in status. The local authorities which do not operate services themselves are in a position of some inferiority, but not to Manchester only : so far as can be seen, pressure from constituents through their authority is not less effective than direct pressure on elected representatives. The system is flexible enough to meet changes as they arise, and it has succeeded in doing so hitherto. It is not so certain that this will continue in the next stage of development.

At present the suburban railways, though important, are not of the same critical importance as in other conurbations of the same size, but it is doubtful whether the conurbation can expand further without making more use of railways. It is certain that the railways would not sink the capital required for new development without some guarantee of a return, and this could only be given by a coordinating authority. At present it seems unlikely that the railways will take the initiative, or that they will be seriously pressed to take it. On the other hand, the existing suburban services might become so unprofitable that the railways created a new situation by withdrawing them, or threatening to withdraw them. This is possible, but scarcely probable as things are ; the system is therefore a fairly stable one, unless upset by pressure from the central government, such as followed the 1947 Act. Doubtless, if need arose this could be applied easily enough. Local distaste for formal coordination is passive rather than active : it could be overcome by political leadership from outside, by a national contribution directed to ease financial scruples, and by arguments based on national rather than on local interests.

G. M. Higgins.
W. J. M. Mackenzie.

Manchester.

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